LBT-A190/D150/G1000

SERVICE MANUAL

US Model
LBT-D150/G1000

Canadian Model
AEP Model
UK Model
LBT-A190

REVISED

Discard LBT-A190/D150/G1000 Service Manual
(No. 9-959-315-11) previously issued.
This Service Manual contains it.

- LBT-A190/D150/G1000 are composed of following models.
  As for the service manual, it is issued for each component model, then, please refer to it.

COMPONENT MODEL NAME FOR THESE SYSTEM

	LBT-A190			LBT-D150	LBT-G1000
	Canadian	AEP	UK	US	US
STEREO DECK RECEIVER	HCD-A190			HCD-D150	HCD-G1000
TURN TABLE		PS-LX56P			
SPEAKER SYSTEM	SS-D255			SS-D255	SS-G2000

PARTS LIST

	Part No.	Description
	1-501-374-11	ANTENNA, LOOP
	1-501-536-11	ANTENNA(AEP)
	3-758-120-21	MANUAL, INSTRUCTION (US) (ENGLISH)
	3-758-120-31	MANUAL, INSTRUCTION(Canadian) (FRENCH)
	3-758-120-41	MANUAL, INSTRUCTION (AEP) (ENGLISH)
	3-758-120-51	MANUAL, INSTRUCTION (UK) (ENGLISH ,FRENCH ,SPANISH, PORTUGUESE)
*	4-963-164-01	INDIVIDUAL CARTON(G1000)
*	4-963-167-01	INDIVIDUAL CARTON(D150)
*	4-963-168-01	INDIVIDUAL CARTON(CND)
*	4-963-169-01	INDIVIDUAL CARTON(AEP)
*	4-963-171-01	INDIVIDUAL CARTON(UK)

	Part No.	Description
	A-4674-087-A	TURN TABLE MAT ASSY(PS-LX56P)
	1-467-430-11	COMMANDER , STANDARD (RM-S221)(HCD)
	2-181-754-21	COVER(MLY), BATTERY(RM-S221)
	3-376-136-01	CUSHION(HALF)(HCD)
*	4-947-532-01	SNOW BOX(L)(PS-LX56P)
*	4-947-533-11	SNOW BOX(R)(PS-LX56P)
*	4-963-165-01	CUSHION(HCD)(AEP)
*	4-964-535-01	CUSHION(SS-D255/G2000)
*		

NOTE :
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

COMPACT Hi-Fi STEREO SYSTEM

SONY®

Sony Corporation
Consumer A&V Products Company
Home A&V Products Div.

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9-959-315-12

PS-LX56/LX56P

SERVICE MANUAL

Ver 1.1 2001. 07

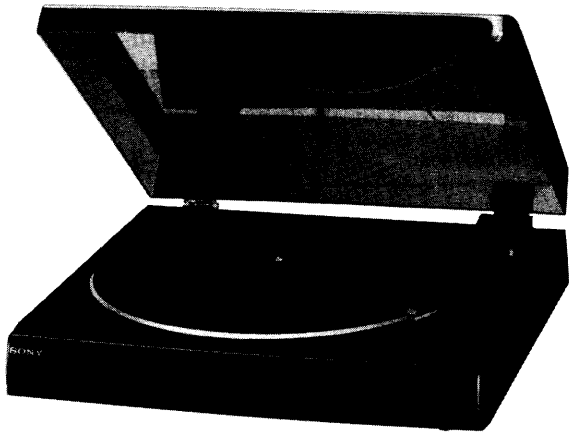


PHOTO : PS-LX56

US Model
Canadian Model
PX Model
Tourist Model
PS-LX56
AEP Model
E Model
Australian Model
PS-LX56/LX56P
UK Model
PS-LX56P

PS-LX56/LX56P are the turntable section in LBT-A190/A195/A290/A290K/A295/A390/A390K/A395/A490/A490K/A495/D150/D250/D550/G1000/G2000.

SPECIFICATIONS

	(PS-LX56)
Turntable	
Platter	30cm (12 in.)
Motor	DC servo motor
Drive system	Belt drive
Speed	33 1/3 rpm/45 rpm switchable
Wow and flutter	0.2% (WRMS)
Signal-to-noise ratio	60 dB (DIN-B)
Automatic system	Return, reject
Tonearm	
Type	Dynamically blanced
Pivot-to-stylus length	203 mm (8 in.)
Overall arm length	235 mm (9 1/4 in.)
Cartridge	
Type	Moving magnet type
Frequency response	20 Hz-20kHz
Stylus	CN-234
General	
Dimensions	355 × 94 × 345 mm(w/h/d) (14 × 3 3/4 × 13 5/8 inches)
Weight	Approx. 2.5 kg (5 lb 8 oz)
Power requirement	US and Canadian model : 120V AC, 60Hz European model : 220-230V AC, 50/60Hz Australian model : 240V AC, 50Hz Model for other countries : 110-120V/220-240V adjustable with the voltage selector AC, 50/60Hz
Power consumption	2 W
Accessory supplied	45-rpm adaptor (1)
Optional accessories	Replacement stylus CN-234 Stat spray XP-C10 Cleaner XP-C1, XP-C2

Turntable	(PS-LX56P)
Platter	30 cm
Tone arm type	Dynamically balanced
Cartridge type	Moving magnet type
Stylus	Sony CN-234 (0.6 mil diamond)
Mass	Approx. 2.3 kg (5 lb 1 oz)
Dimensions	Approx. 355 x 95 x 345 mm (14 x 3 3/4 x 13 5/8 inches) (w/h/d, including projections)

Design and specifications subject to change without notice.

Note
This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

STEREO TURNTABLE SYSTEM

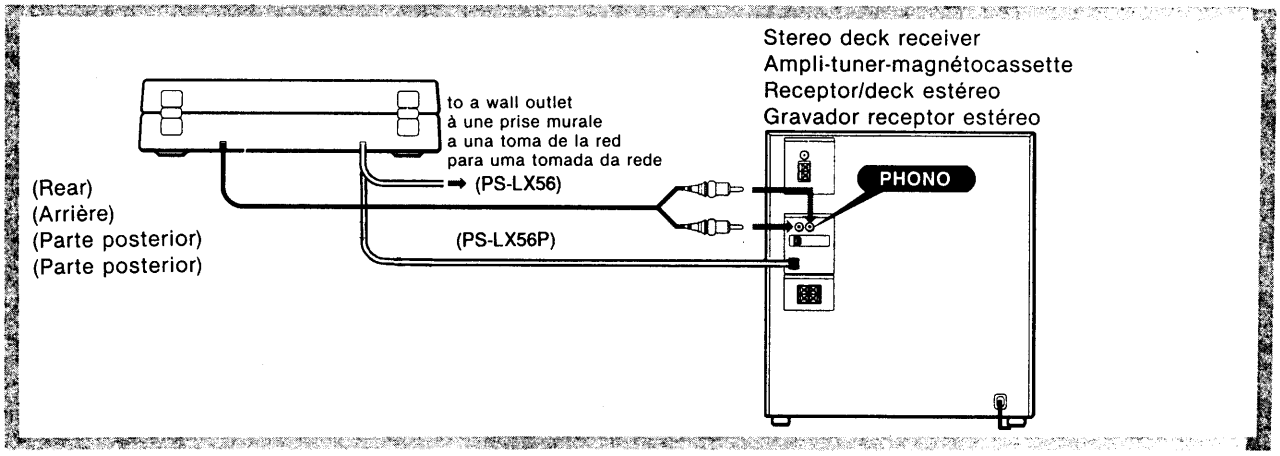
SONY

9-959-216-12
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Sony Corporation
Home Audio Company
Shinagawa Tec Service Manual Production Group

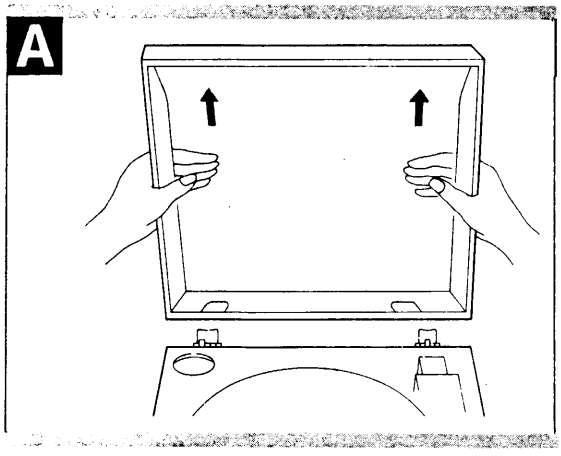
Connections

Note
Connect the red plug to the right-channel jack (R), and the white plug to the left-channel jack (L).



Notes on installation
- Place the turntable on a level surface.
- Avoid placing the unit near electrical appliances (such as a television, hair dryer, or fluorescent lamp) which may cause hum or noise.
- Place the turntable where it will not be subject to any vibration, such as from speakers, slamming of doors, etc.
- Keep the unit away from direct sunlight, extremes of temperature, and excessive dust and moisture.

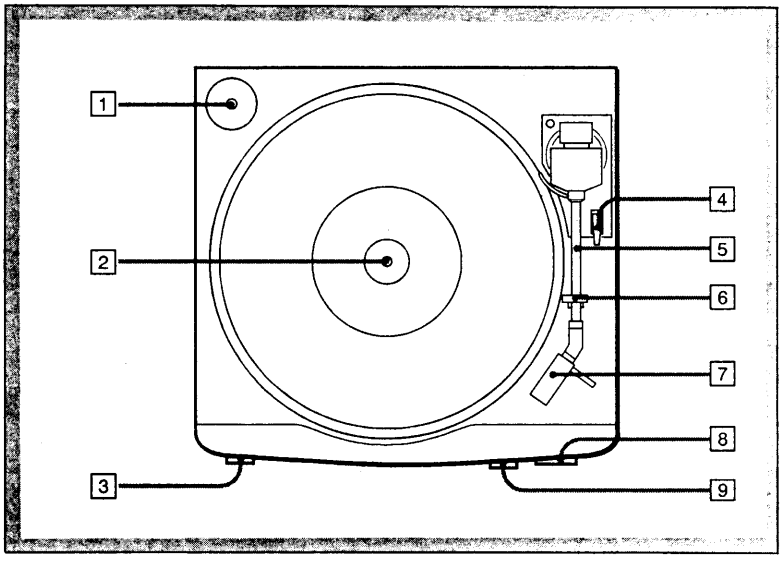
Nota
Conecte la clavija roja a la toma del canal derecho (R), y la blanca a la del canal izquierdo (L).



To remove the dust cover A

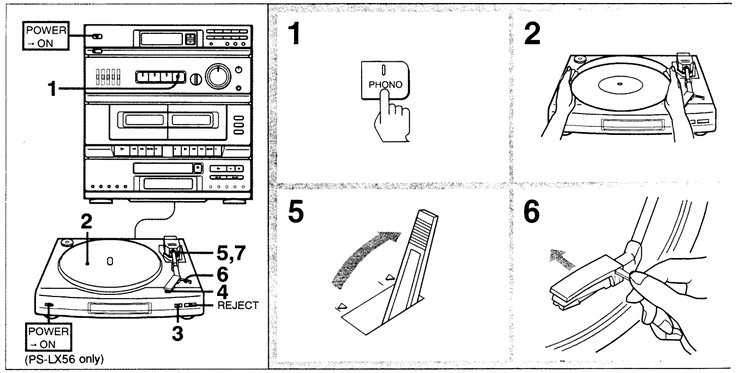
Open the cover fully and pull it up.

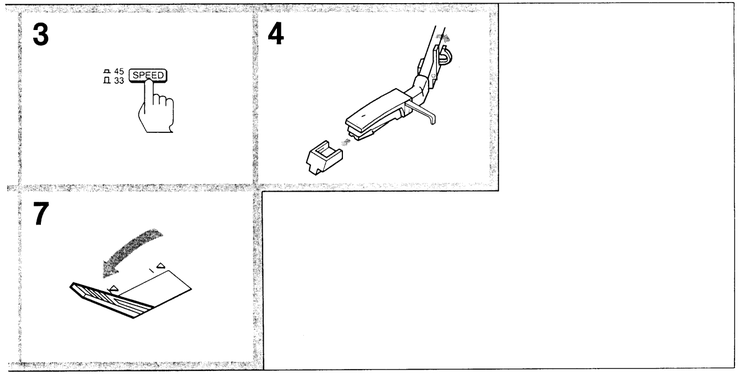
Location of Controls



1 45-rpm adaptor
2 Centre spindle
3 POWER switch (PS-LX56)
4 Cueing lever
5 Tonearm
6 Armrest
7 Cartridge
8 REJECT button
9 Speed selector

Playing Records





When the record is played to the end, the tonearm returns to the armrest and the turntable stops.

To stop during play, press REJECT.

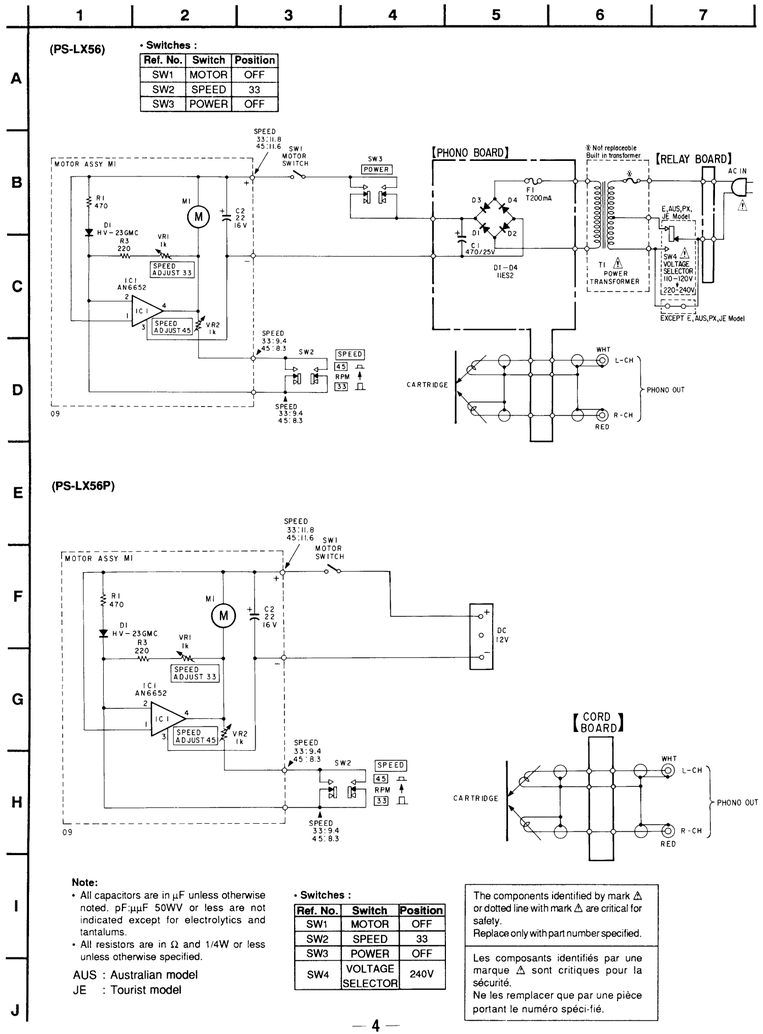
To play a different part of the record
Lift the tonearm by setting the cueing level to ▼, move the tonearm by hand to the desired point, then set the cueing lever to ▼.

To play a 17-cm record
Use the supplied adaptor

If the tonearm moves outward when you move it colse to the centre
Do not resist this movement, as it may damage the automatic return mechanism.

If the tonearm does not return to its armrest
Press REJECT.

SCHEMATIC DIAGRAMS



Note:
- All capacitors are in μF unless otherwise noted. pF:μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.

AUS : Australian model
JE : Tourist model

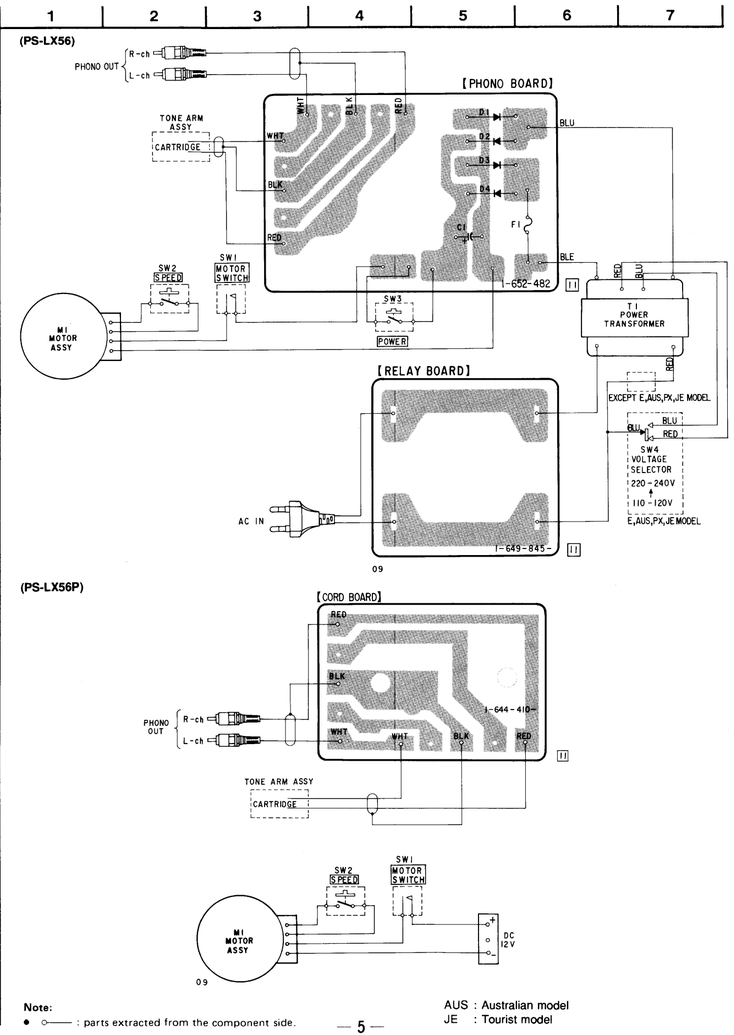
• Switches :

Ref. No.	Switch	Position
SW1	MOTOR	OFF
SW2	SPEED	33
SW3	POWER	OFF
SW4	VOLTAGE SELECTOR	240V

The components identified by mark △ or dotted line with mark △ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque △ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spéci-fié.

WIRING DIAGRAMS



Note:
- ○—— : parts extracted from the component side.

AUS : Australian model
JE : Tourist model

EXPLODED VIEW

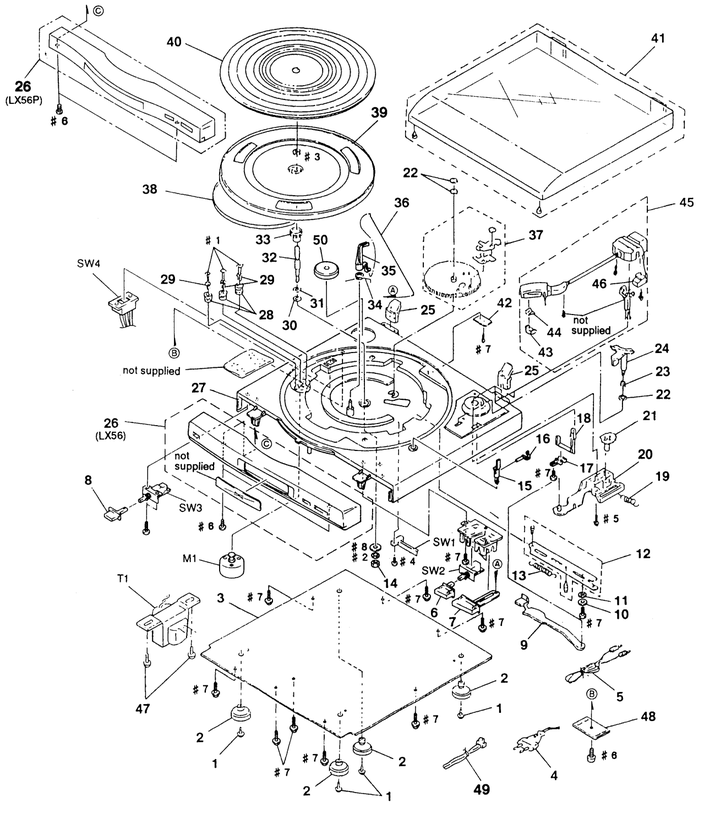
NOTE:

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

- AUS : Australian model
- CND : Canadian model
- EE : East European model
- IT : Italian model
- MX : Mexican model
- EA : Saudi Arabia model
- SP : Singapore model
- MY : Malaysia model
- JE : Tourist

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.



Ref.No.	Part No.	Description	Remark
1	4-950-497-01	FOOT SEAT	
2	4-950-490-01	PLASTIC STAND	
* 3	4-961-804-01	BUTTON BOARD	
⚠4	1-575-651-61	CORD, AC (LX56: AEP, EA, EE, IT, MX, MY, CIS, SP)	
⚠4	1-575-975-11	CORD, AC (LX56: CND, US)	
⚠4	1-590-074-11	CORD, AC (LX56: E)	
⚠4	1-690-608-11	CORD, AC (LX56: AUS)	
⚠4	1-696-570-21	CORD, AC (LX56: UK)	
5	1-555-116-11	CORD, PHONO...(BLACK)	
6	4-964-177-01	KNOB SPEED...(BLACK)	
6	4-964-177-11	KNOB SPEED ...(LX56:SILVER, SILVER METALLIC)	
7	4-964-178-01	KNOB REJECT...(BLACK)	
7	4-964-178-11	KNOB REJECT ...(LX56:SILVER, SILVER METALLIC)	
8	4-964-184-01	KNOB POWER (LX56:BLACK)	
8	4-964-184-11	KNOB POWER ...(LX56:SILVER, SILVER METALLIC)	
9	4-947-487-01	RETURN LINK	
10	4-890-173-00	WASHER	
11	3-659-350-00	WASHER	
12	A-4604-947-A	RETURN ASSY, LEVER	
13	4-947-485-01	SPRING (22)	
14	4-947-510-01	NUT	
15	4-947-491-01	ARM REST	
16	A-4660-499-A	ARM CLIP ASSY	
17	4-947-477-01	CUEING (BASE)	
18	4-947-468-01	LEVER, CUEING	
19	4-963-537-01	SPRING	
20	4-963-536-01	LINK RETURN	
21	4-963-535-01	ADJUST CAM	
22	4-947-514-01	4MM CS RING	
23	4-947-467-01	SPRING (6)	
24	4-947-466-01	TONE ARM ELEVATOR	
25	A-4660-498-A	HINGE ASSY	
26	A-4384-982-A	PANEL (B) ASSY, FRONT (LX56: SILVER)	
26	A-4411-941-A	PANEL (B) ASSY, FRONT (LX56: SILVER METALLIC)	
26	A-4660-577-A	FRONT PANEL (G) ASSY (LX56: GRAY) (US)	
26	A-4660-578-A	FRONT PANEL (G) ASSY (LX56: BLACK)	
26	A-4660-976-A	FRONT PANEL (G) ASSY (LX56P)	
* 27	4-950-487-01	MAIN CABINET (B)...(BLACK)	
* 27	4-950-487-11	MAIN CABINET (B) ...(LX56:SILVER, SILVER METALLIC)	
28	4-947-505-01	CUSHION MOTOR	
29	4-947-504-01	COLLAR	
30	3-451-162-00	WASHER (56)	
31	3-701-445-21	WASHER	
32	4-947-498-01	STELL BALL	
33	4-947-497-01	GEAR	
34	4-947-496-01	SPRING (34)	
35	4-947-495-01	WIPER REJECT	
36	4-948-101-01	SPRING (38)	
37	A-4604-916-A	GEAR ASSY, SPUR	
38	4-947-503-01	BELT	
39	4-947-494-01	TURNTABLE PLATTER	
40	4-947-539-01	RUBBER MAT	
41	A-4604-946-A	DUST COVER ASSY	
* 42	1-652-482-11	PHONO BOARD (LX56)	
* 42	1-644-410-11	CORD BOARD (LX56P)	
43	4-948-095-01	COVER, CARTRIDGE	
44	4-951-290-01	STYLUS (CN-234)	
45	A-4604-940-A	ARM ASSY, TONE	
46	4-947-464-01	COUNTER WEIGHT	
47	4-952-961-01	SCREW (LX56)	
* 48	1-649-845-11	RELAY BOARD (LX56)	
49	1-557-109-21	CORD, DC (LX56P)	
50	3-701-806-00	ADAPTOR,45	
M1	A-4604-945-A	MOTOR ASSY	
SW1	1-570-666-11	SWITCH (LEAF)	
SW2	1-571-089-11	SWITCH, PUSH (SPEED) (1 KEY)	
SW3	1-692-211-11	SWITCH, PUSH (POWER) (1 KEY) (LX56)	
⚠SW4	1-692-835-11	VOLTAGE SELECTOR (LX-56: AUS, E, MX, MY, SP)	
⚠T1	1-450-987-11	TRANSFORMER, POWER (LX56: AEP, EE, IT, CIS)	
⚠T1	1-450-987-21	TRANSFORMER, POWER (LX56: AUS, E, PX, EA, JE, MX, SP)	
⚠T1	1-450-987-31	TRANSFORMER, POWER (LX56: MY)	
⚠T1	1-450-987-41	TRANSFORMER, POWER (LX56: U, CA)	

CORD | PHONO | RELAY

ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Hardware (# mark) list is given in the last of this parts list.

- SEMICONDUCTORS
  In each case, u: μ , for example:
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD...
- CAPACITORS
  uF : μF
- COILS
  uH : μH

- AUS : Australian model
- CND : Canadian model
- EE : East European model
- IT : Italian model
- MX : Mexican model
- EA : Saudi Arabia model
- SP : Singapore model
- MY : Malaysia model
- JE : Tourist

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

Ref.No.	Part No.	Description	Remark
*	1-644-410-11	CORD BOARD (LX56P)	
		**********	
**********			
*	1-652-482-11	PHONO BOARD (LX56)	
		**********	
		< CAPACITOR >	
C1	1-126-012-11	ELECT 470uF 16V	
		< DIODE >	
D1	8-719-200-82	DIODE 11ES2	
D2	8-719-200-82	DIODE 11ES2	
D3	8-719-200-82	DIODE 11ES2	
D4	8-719-200-82	DIODE 11ES2	
		< FUSE >	
⚠F1	1-532-613-XX	FUSE TIME-LAG (T200mA)	
**********			
*	1-649-845-11	RELAY BOARD (LX56)	
		**********	
**********			

Ref.No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		**********	
	3-758-045-11	MANUAL INSTRUCTION (English, French, Spanish, Portuguese) (LX56 AEP, CND)	
	3-758-045-21	MANUAL INSTRUCTION (English) (LX56 US, UK)	
	3-758-045-41	MANUAL INSTRUCTION (German, Dutch, Swedish, Italian) (LX56 AEP, IT)	
	3-758-045-51	MANUAL INSTRUCTION (English, French, Spanish, Chinese) (LX56 AUS, E, PX, MX, EA, MY, SP, JE)	
	3-758-045-61	MANUAL INSTRUCTION (English, German, Polish) (LX56 EE, CIS)	
*	4-947-532-01	SNOW BOX (L)	
*	4-947-533-01	SNOW BOX (R)	
	3-701-806-00	ADAPTOR,45	
**********			
		********** HARDWARE LIST **********	
#1	7-621-773-87	SCREW (64)	
#2	7-623-210-22	WASHER (57)	
#3	7-624-110-04	6MM E RING	
#4	7-685-105-01	SCREW (59)	
#5	7-685-645-79	SCREW (68)	
#6	7-685-646-79	SCREW (60)	
#7	7-685-647-79	SCREW (58)	
#8	7-688-005-01	WASHER (69)	

MEMO

REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.1	2001.07	PDF registration (including : 9-959-216-81, 9-959-216-82, 9-959-216-83, 9-959-216-91)
1.0	1993.11	New

SS-D255/G2000

SERVICE MANUAL

US Model
Canadian Model

SPECIFICATIONS

Speaker System	2-way speaker system (SS-G2000) 3-way speaker system (SS-D255)
Mass	Approx. 3 kg PC speaker (6 lb 10 oz)
Dimensions	Approx. 220 × 395 × 180 mm ($8^3/_4 \times 15^5/_8 \times 7^7/_8$ inches) (w/h/d, including projections)

Design and specifications are subject to change without notice.

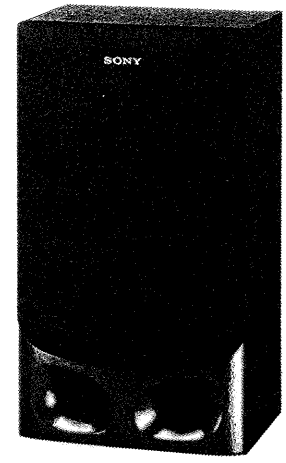


Photo: SS-G2000

SS-D255 is the speaker system in LBT-D150 and LBT-D250.
SS-G2000 is the speaker system in LBT-G1000, LBT-A190, LBT-G2000 and LBT-A195.

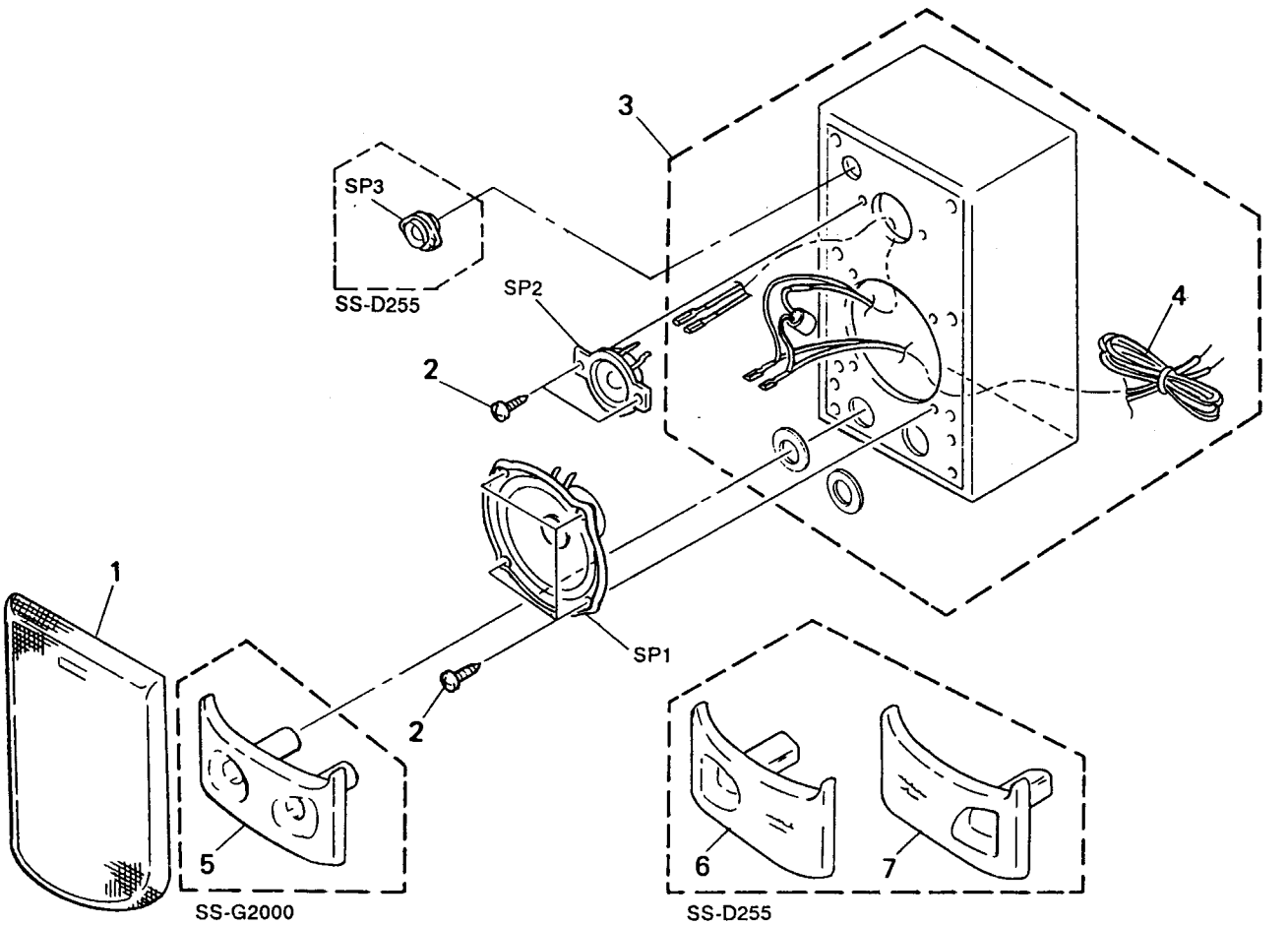
SPEAKER SYSTEM

SONY®

EXPLODED VIEW AND PARTS LIST

NOTE:

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Ref. No.	Part No.	Description	Remark
1	X-4944-220-1	FRAME ASSY, GRILLE	
2	4-874-614-61	SCREW (M3.5X16)	
* 3	A-4353-685-A	CABINET ASSY, SPEAKER (G2000)	
* 3	A-4353-678-A	CABINET ASSY, SPEAKER (D255)	
4	1-575-696-11	CORD, SPEAKER (WITH(C))	
* 5	X-4944-221-1	DUCT ASSY, ORNAMENTAL (G2000)	
* 6	X-4944-224-1	DUCT (L) ASSY, ORNAMENTAL (D255)	
* 7	X-4944-225-1	DUCT (R) ASSY, ORNAMENTAL (D255)	
SP1	1-504-173-11	SPEAKER (16cm)	
SP2	1-504-174-11	SPEAKER (5cm)	
SP3	1-544-453-21	SPEAKER (2cm) (D255)	

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		**********	
*	4-964-535-01	CUSHION	

9-959-266-11

Sony Corporation
Audio Group

English
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HCD-A190/D150/G1000

SERVICE MANUAL
REVISED

US Model
HCD-D150/G1000
Canadian Model
AEP Model
UK Model
HCD-A190

HCD-A190, HCD-D150 and HCD-G1000 are the tuner, deck, CD and amplifier section in LBT-A190, LBT-D150 and LBT-G1000 respectively.

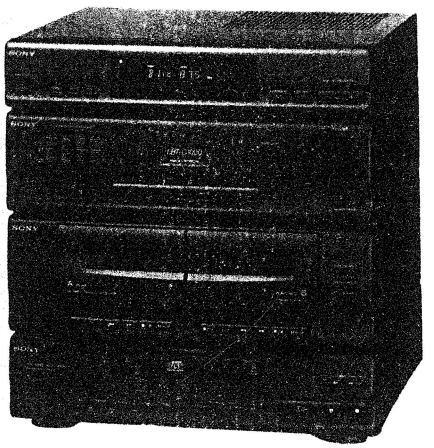


Photo : HCD-G1000

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS (US model)

POWER OUTPUT AND TOTAL HARMONIC DISTORTION :
With 6-ohm loads, both channels driven, from 70—15,000Hz ; rated 10 watts per channel minimum RMS power, with less than 10% total harmonic distortion from 250 milliwatts to rated output.

Amplifier

Continuous RMS power output
10W + 10W (6 ohms, at 1kHz, 5% THD)

Input	Jack type	Sensitivity	Impedance
VIDEO (G1000)	Phono	300 mV	47 kilohms
PHONO (A190/D150)	Phono	3 mV	47 kilohms

Output	Jack type	Impedance
HEADPHONES	Stereophone	Accepts headphones of 8 ohms or more

Frequency response 15Hz to 50kHz $^{+0}_{-3}$ dB

CD Section	Model Name Using Similar Mechanism	CDP-411/511/D7
	CD Mechanism Name	CDM14-5BD10
	Base Unit Name	BU-5BD10
DECK Section	Model Name Using Similar Mechanism	HTC-D159
	Tape Transport Mechanism Type	TCM-180VW-H11

Tuner

System: FM stereo
FM/AM superheterodyne tuner

FM tuner section
- Tuning range: 87.5 to 108MHz
- Antenna: 300 ohms balanced
  75 ohms unbalanced
- Intermediate frequency: 10.7MHz

AM tuner section
- Tuning range: AM : 530 to 1,710kHz (US, Canadian)
  MW : 531 to 1,602kHz (AEP, UK)
  LW : 153 to 279kHz (AEP, UK)
- Antenna: AM loop antenna
  External antenna terminal
- Intermediate frequency: 450kHz

Cassette deck

Recording system: 4-track 2-channel stereo
Frequency response: DOLBY NR OFF (A190)
With Type II cassette (Sony UX-S)
40Hz to 14kHz (±3dB)
With Type I cassette (Sony HF-S)
40Hz to 13kHz (±3dB)
Wow and flutter: W. PEAK ±0.2% (DIN) (A190)
0.1% (WRMS) (D150/G1000)

—continued on next page—

COMPACT DISC DECK RECEIVER

SONY

MICROFILM

Compact disc player

Laser	Semiconductor laser
Wavelength	780 – 790nm
Frequency response	2Hz to 20kHz ± 1dB
Harmonic distortion	Less than 0.01% (1kHz)

General

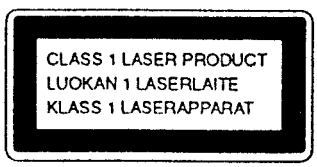
Power requirements	120V AC, 60Hz (US, Canadian) 220 – 230V AC, 50/60Hz (AEP) 240V AC, 50Hz (UK)
Power consumption	45W (US, Canadian) 50W (AEP, UK)
Mass	Approx. 7.5kg (16 lb 9 oz)
Dimensions	Approx. 355 × 380 × 325mm (14 × 15 × 12⅞ inches) (w/h/d, including projections)

Supplied accessories

Remote commander RM-S221	(1)
Batteries Sony SUM-3 (NS)	(2)
FM wire antenna	(1)
AM loop antenna	(1)
45rpm adaptor	(1) (AEP1, UK : Supplied with the turntable)

Design and specifications are subject to change without notice.

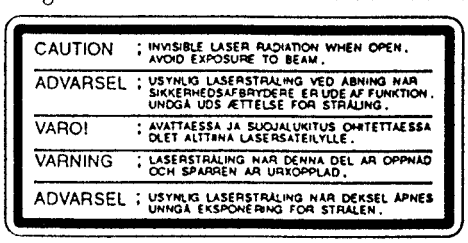
This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.



CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

The following caution label is located inside the unit.



Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ▯▯ are trademarks of Dolby Laboratories Licensing Corporation.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SAFETY CHECK-OUT (US Model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

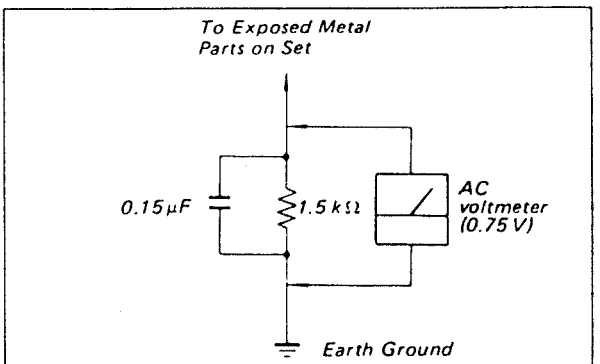


Fig. A. Using an AC voltmeter to check AC leakage.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.

During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.

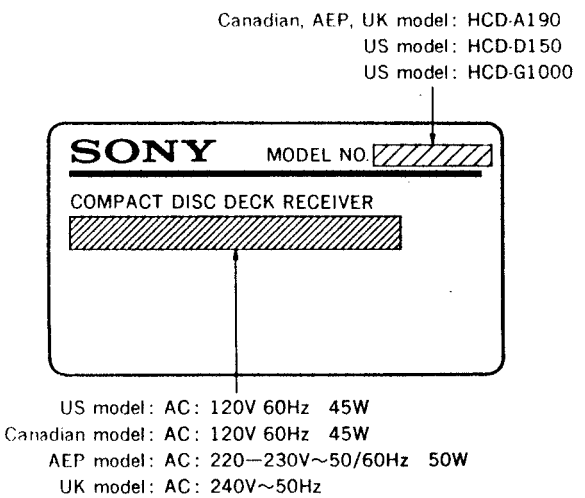
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

MODEL IDENTIFICATION

—Label Model Number—



US model: AC: 120V 60Hz 45W
Canadian model: AC: 120V 60Hz 45W
AEP model: AC: 220—230V~50/60Hz 50W
UK model: AC: 240V~50Hz

• Abbreviation
AEP1 : AEP unit with PHONO POWER SOURCE

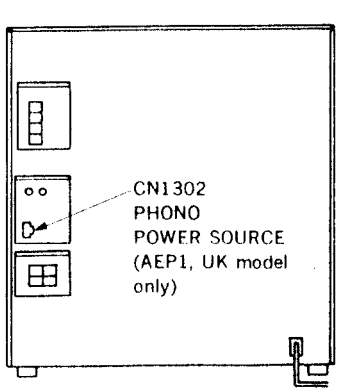


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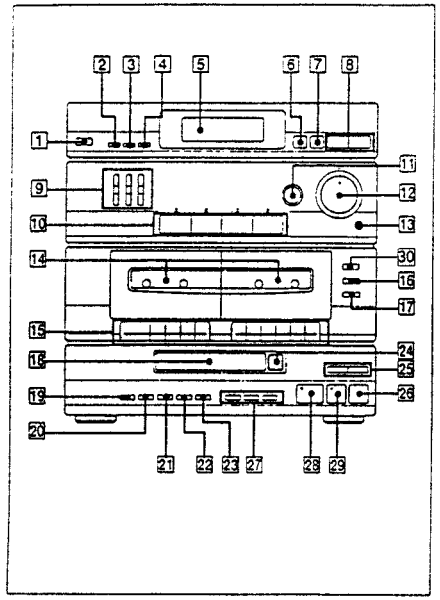
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Location of Controls

Refer to the pages indicated in parentheses for details.



Compact Disc Deck Receiver

Tuner section

1 POWER switch (page 6)
2 MEMORY button (page 9)
3 STEREO/MONO button (page 8)
4 TUNING/PRESET button (pages 8, 9)
5 Display window
6 BAND button (page 8)
7 SHIFT button (page 9)
8 DUAL MODE TUNING +/– buttons (pages 8, 9)

Amplifier section

9 3 BAND GRAPHIC EQUALIZER controls (LBT-A190/G1000)
TONE CONTROLs (LBT-D150) (page 7)
10 Function selectors and indicators
11 SURROUND control (page 7)
12 VOLUME control (page 7)
13 HEADPHONES jack (page 7)

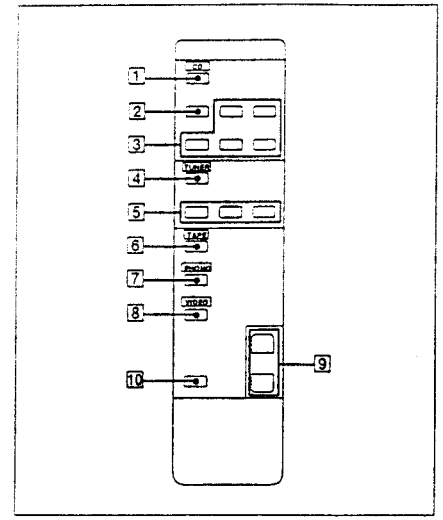
Cassette deck section

14 Cassette holders
15 Tape operating buttons
► (play) button, ■ / ≙ (stop/eject) button, ►► (rightward fast winding) button, ◄◄ (leftward fast winding) button,
II PAUSE button, ● REC button (only for deck B)
16 TAPE SELECT (TYPE I/TYPE II) button (pages 10, 11, 12)
17 DUBBING SPEED (HIGH/NORMAL) button (LBT-G1000 only) (page 12)
30 DOLBY NR (noise reduction) (ON/OFF) switch (LBT-A190 only)

Compact disc player section

18 Disc tray
19 TIME button (page 13)
20 REPEAT button (page 14)
21 CHECK (program check) button (page 15)
22 CLEAR (program clear) button (page 16)
23 EDIT button (pages 16, 17)
24 ≙ OPEN/CLOSE button (page 12)
25 I◄◄ ◄◄ / ►► ►►I AMS* buttons (page 13)
26 ■ (stop) button (page 12)
27 PLAY MODE buttons
CONTINUE button (pages 14, 15, 17)
SHUFFLE button (page 14)
PROGRAM button (page 15)
28 ► (play) button and indicator (page 12)
29 II (pause) button and indicator (page 12)

* AMS is the abbreviation of Automatic Music Sensor.



Remote commander RM-S221

1 CD function button
2 This button is inoperative with this unit.
3 CD operation buttons
I◄◄ / ►►I (AMS*) buttons, ► (play) button, II PAUSE button, ■ (stop) button
4 TUNER function button
5 Tuner operation buttons
SHIFT button
PRESET +/– buttons
These buttons are used to select the preset station number.
6 TAPE function button
7 PHONO function button (operative with LBT-D150 only)
8 VIDEO function button (operative with LBT-G1000 only)
9 VOL (volume) +/– buttons
10 These buttons are inoperative with this unit.

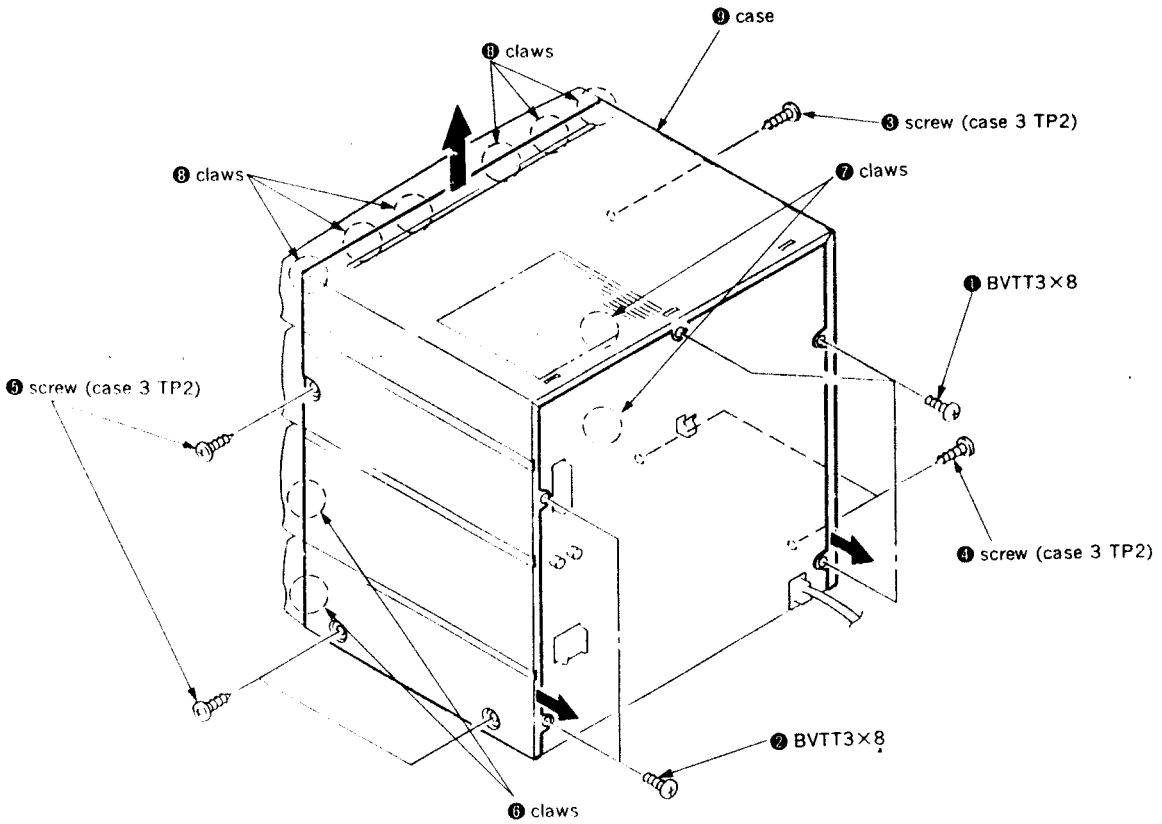
* AMS is the abbreviation of Automatic Music Sensor.

This section is extracted from instruction manual.

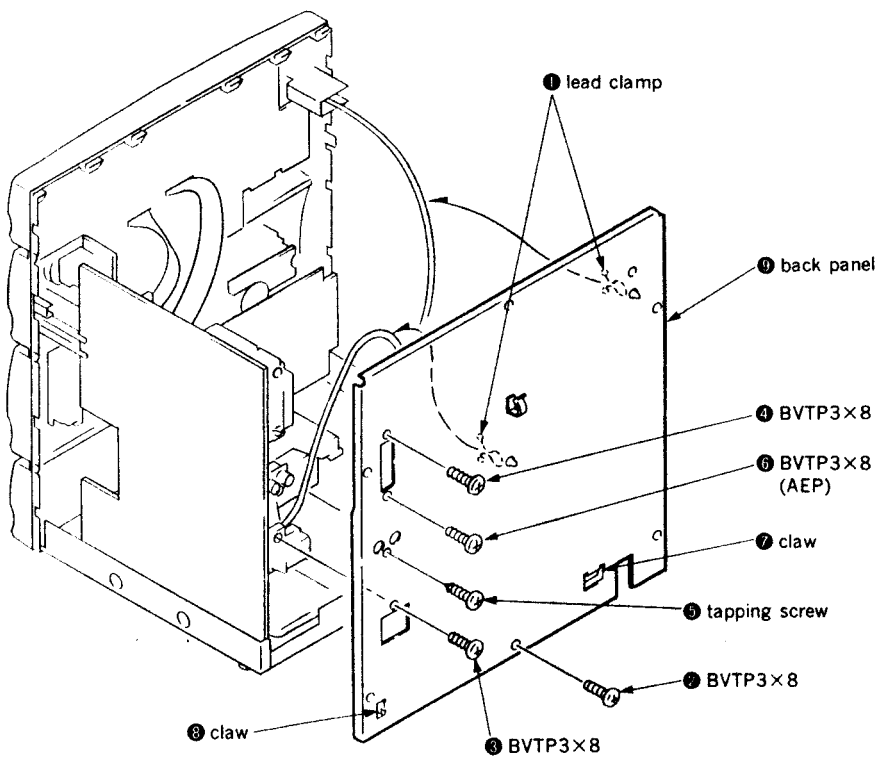
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

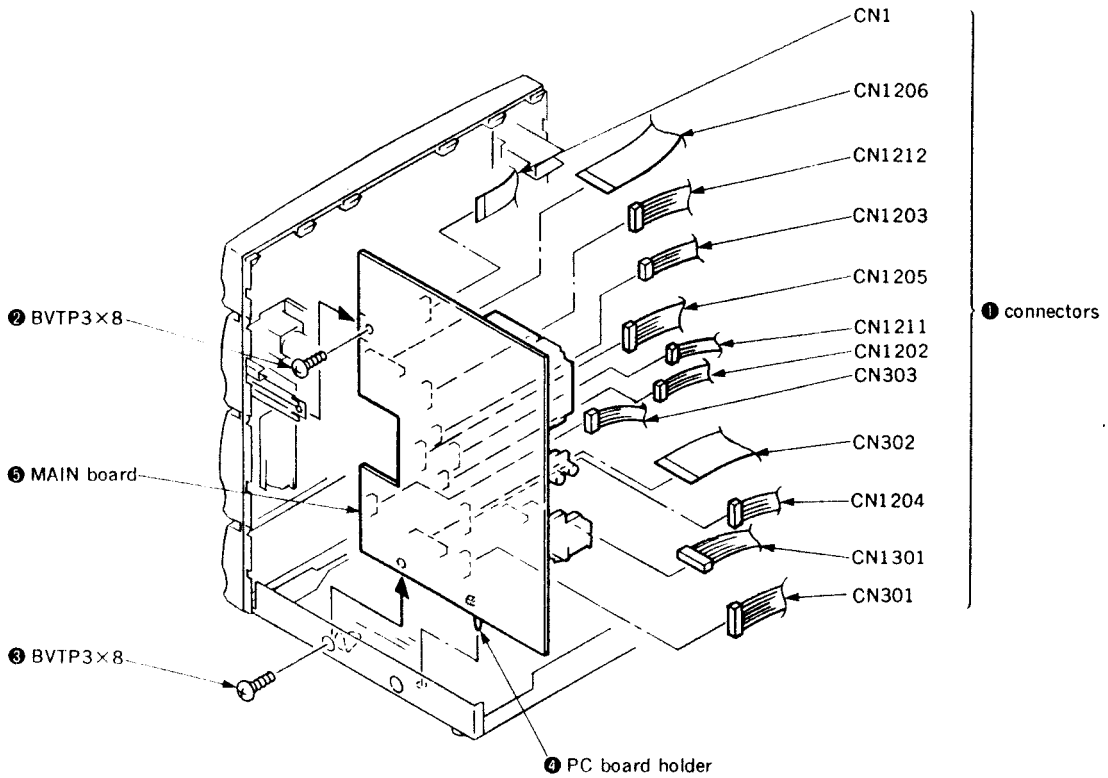
2-1. CASE



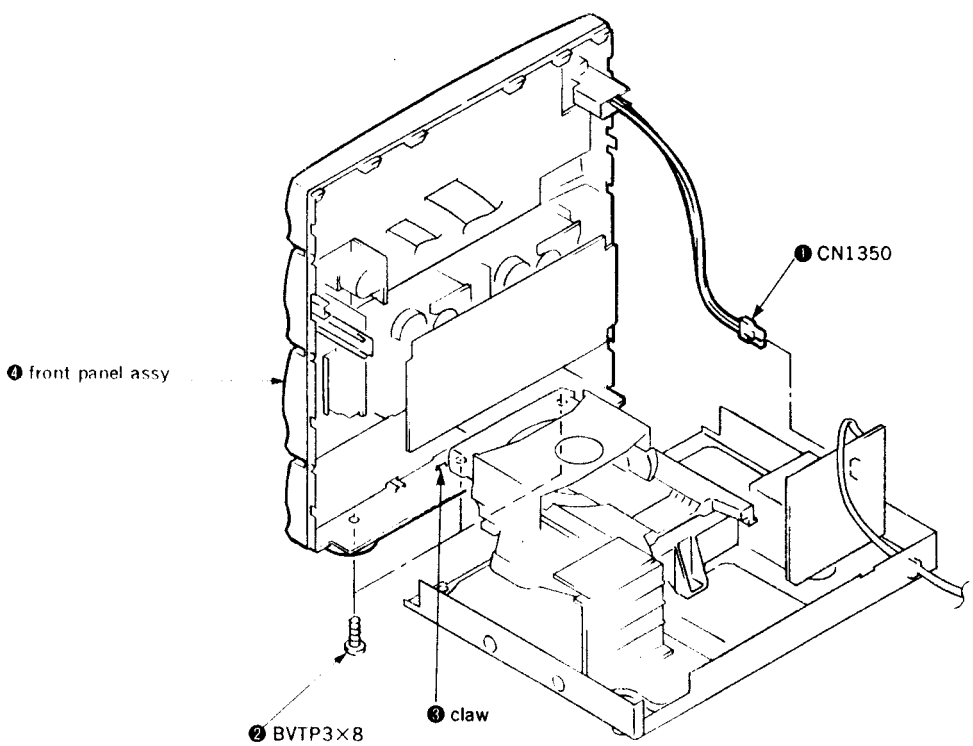
2-2. BACK PANEL



2-3. MAIN BOARD

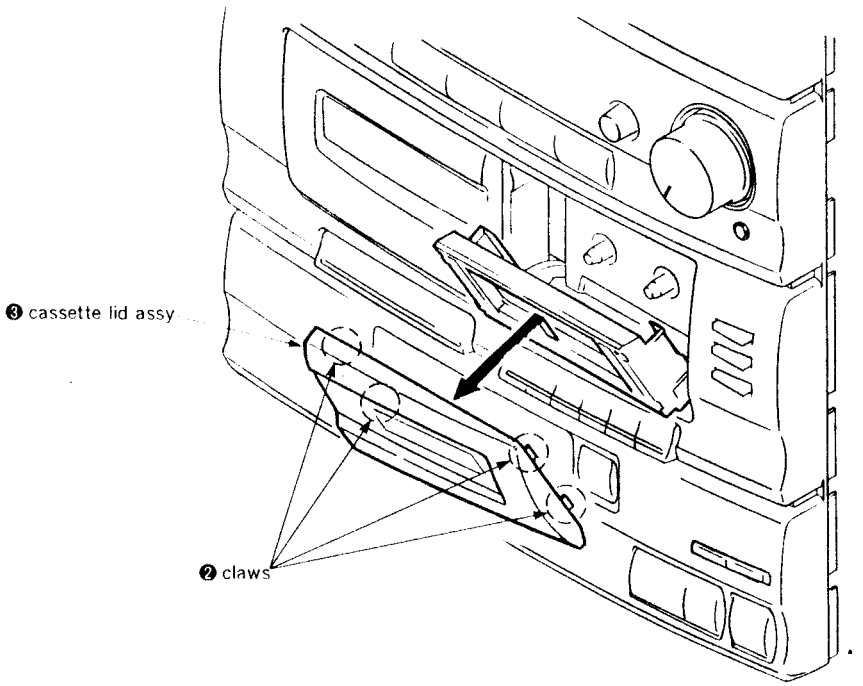


2-4. FRONT PANEL ASSY



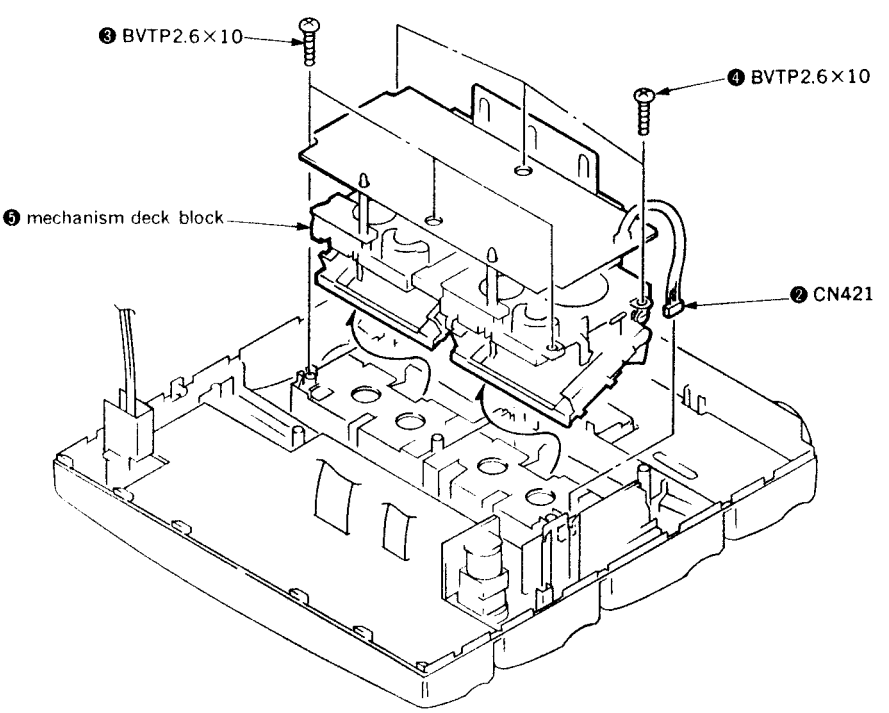
2-5. CASSETTE LID ASSY

❶ Push the EJECT button.

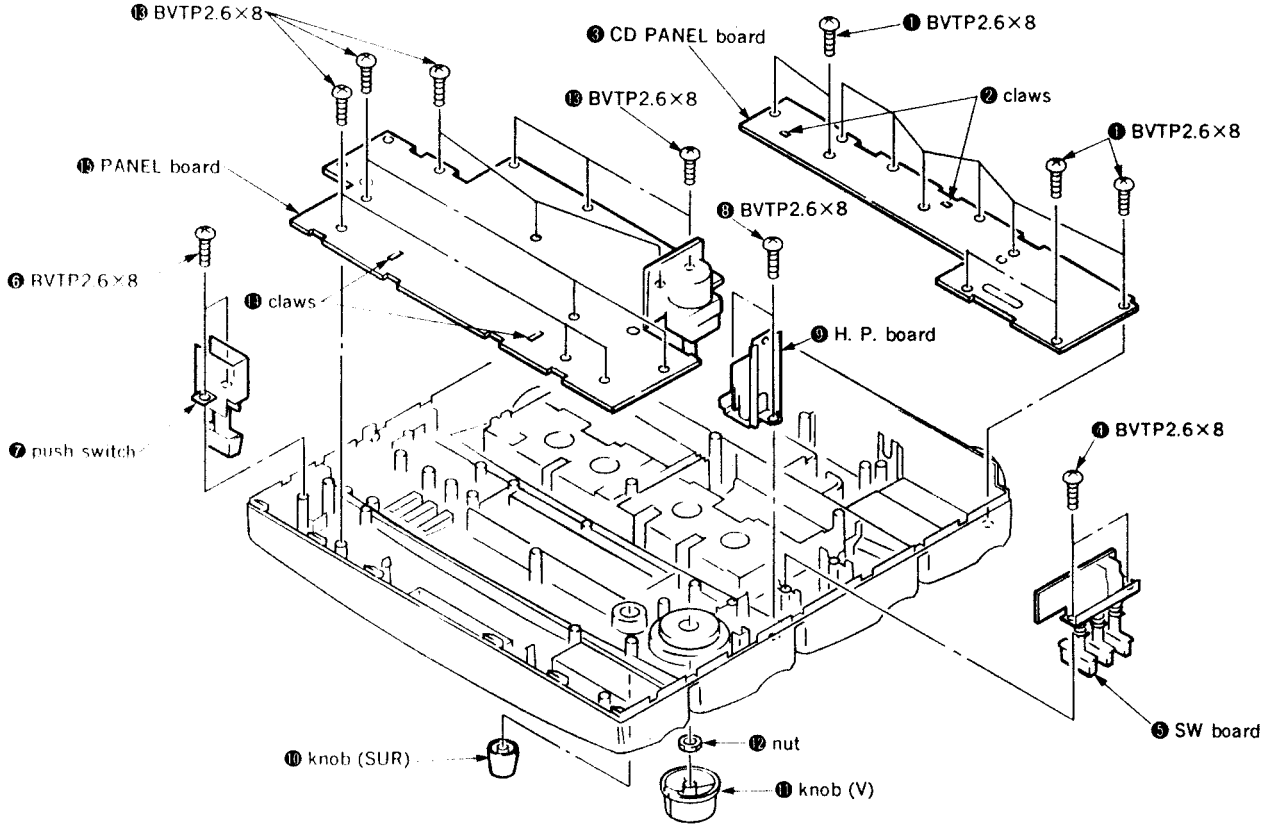


2-6. MECHANISM DECK BLOCK

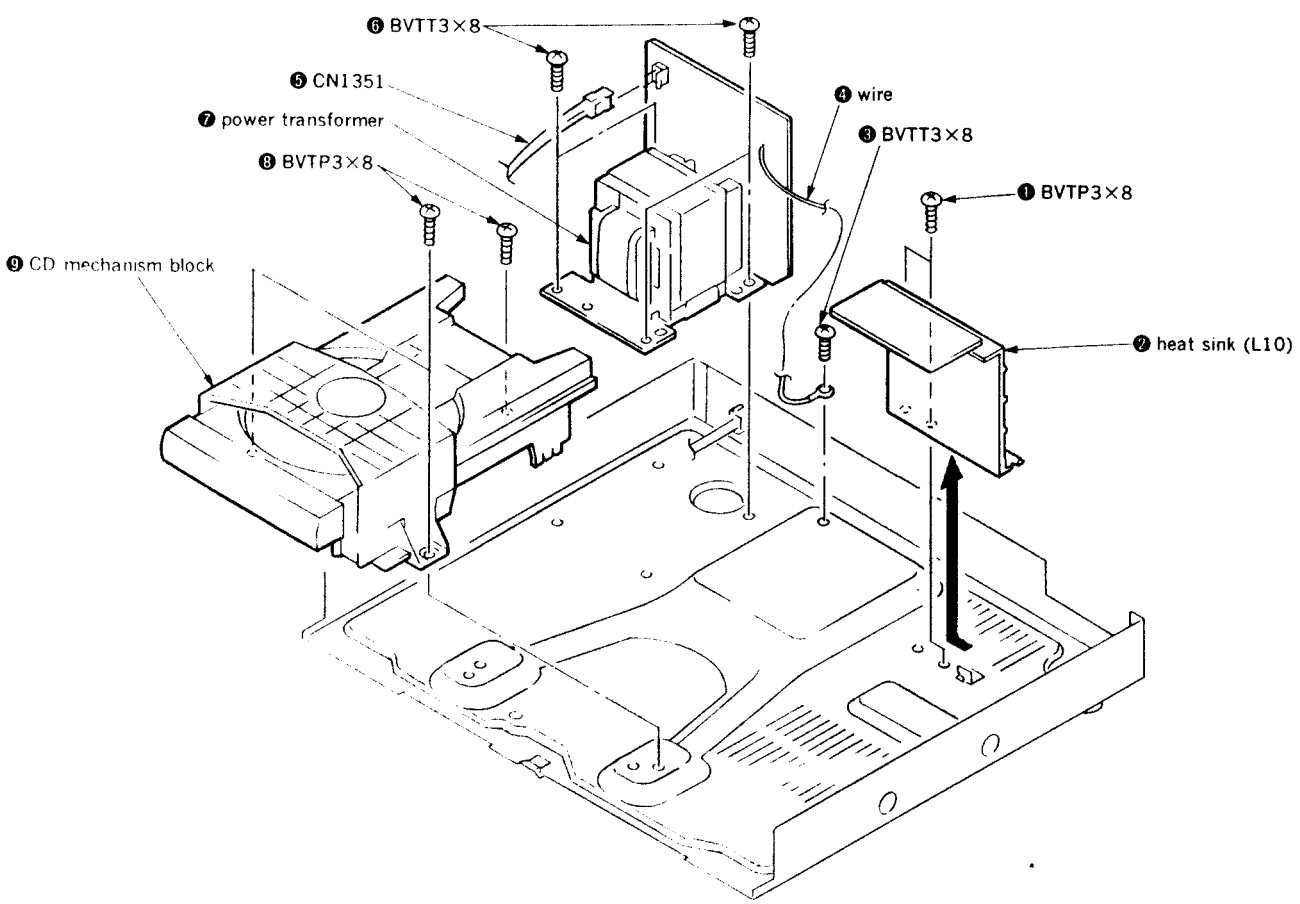
❶ Push the EJECT button.



2-7. CD PANEL/SW/H. P./PANEL BOARDS, PUSH SWITCH

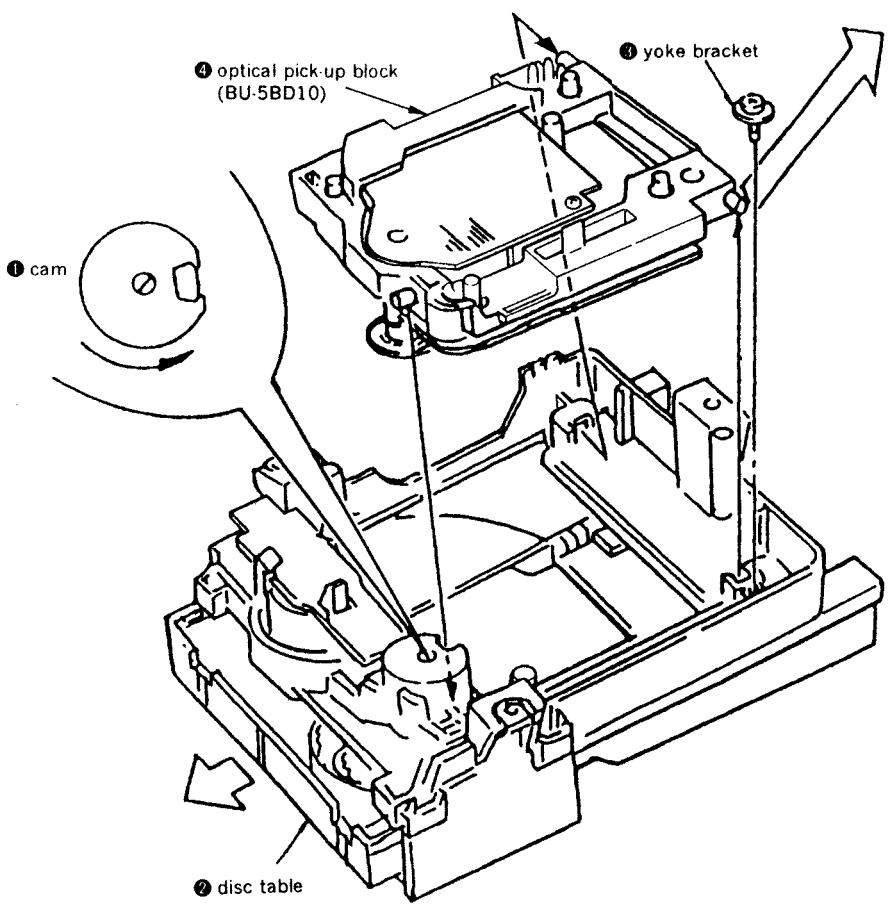


2-8. HEAT SINK, POWER TRANSFORMER, CD MECHANISM BLOCK



2-9. OPTICAL PICK-UP BLOCK

❶ Turn the cam to the direction of arrow (Counter clock wise) by minus screw driver.
❷ Take off the disc table.
❸ Remove the yoke bracket.
❹ Remove the optical pick-up block (BU-5BD10) to the direction of arrow.



SECTION 3
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured alcohol-moistened swab:
   record/playback heads — pinch rollers
   erase head — rubber belts
   capstan — idlers
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Torque	Torque meter	Meter reading
FWD	CQ-102C	30−70g•cm (0.42−0.97oz•inch)
FWD Back tension	CQ-102C	1.5−5.5g•cm (0.020−0.076oz•inch)
FF-REW	CQ-201B	63g•cm or more (0.87oz•inch or more)

SECTION 4
ELECTRICAL ADJUSTMENTS

DECK SECTION **0dB=0.775V**

1. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
2. Do not use a magnetized screwdriver for the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjusted.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
5. The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
6. The adjustments should be performed for both L-CH and R-CH.

- Switches and controls should be set as follows unless otherwise specified.
  TAPE SELECT switch : TYPE I
  DOLBY NR switch (A190) : OFF

Type	Signal	Used for
P-4-A100	10kHz, −10dB	Azimuth Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment
P-4-L300	315Hz, 0dB	Level Adjustment

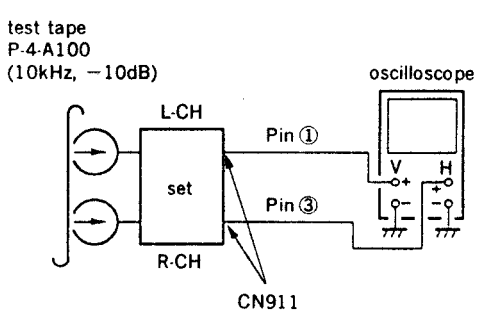
Record/Playback Head Azimuth Adjustment

DECK A **DECK B**

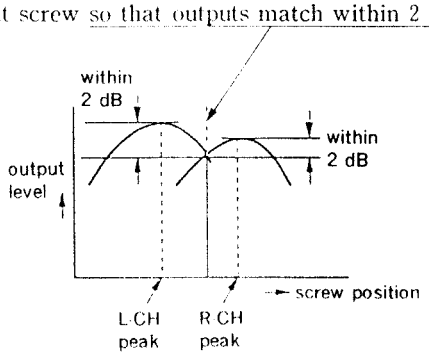
Note: Perform this adjustments for both decks.

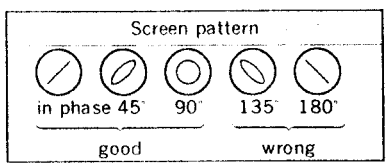
Procedure:

1. Mode: Playback



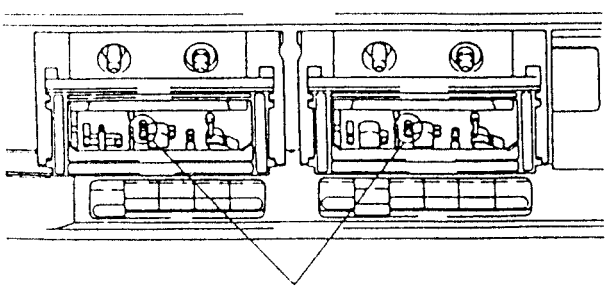
2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 2 dB of peak.





3. After the adjustments, apply suitable locking compound to the parts adjusted.

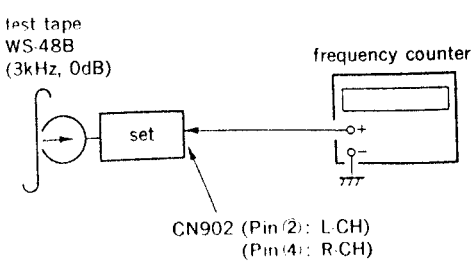
Adjustment Location :



Tape Speed Adjustment | DECK A | | DECK B |

Procedure :

Mode : Playback



High speed adjustment (HCD-A190/G1000 only) (Must be first Adjustment deck B)

1. Short pin CN912 on set "DUBBING SPEED" switch to "HIGH". Then at HIGH speed mode.
2. Adjust RV901 so that the frequency counter reads 6,000± 20Hz.

Normal speed adjustment

1. Remove the short pin from CN912 on set "DUBBING SPEED" switch to "NORMAL". Then at NORMAL speed mode.
2. Adjust RV902 so that the frequency counter reads 3,000+ 10Hz.

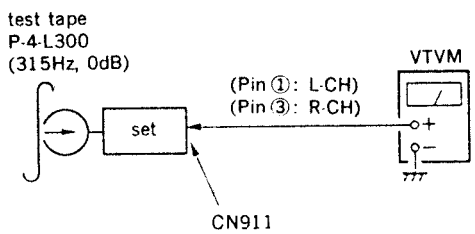
Frequency difference between deck A and deck B the beginning of the tape should be within ±1%.

Adjustment Location : main TC board

Playback Level Adjustment | DECK A | | DECK B |

Procedure :

Mode : Playback



Deck A side RV701 (L-CH), RV801 (R-CH)
Deck B side RV702 (L-CH), RV802 (R-CH)
so that the limits below are satisfied.

Adjustable limits :

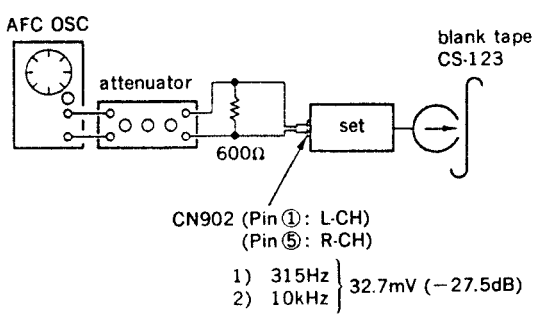
CN911 PB level : 366.7 to 411.4mV (−6.5 to −5.5dB)
level difference between the channels : within ±1dB

Adjustment Location : main TC board

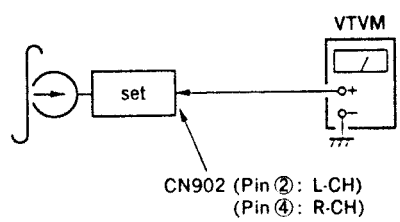
Record Bias Current Adjustment | DECK B |

Procedure :

1. Mode : record



2. Mode : Playback



(1) Supply a 32.7mV (−27.5dB) signal (315Hz) from the CN902. Adjust the VOLUME control so that a 24.5mV (−30dB) signal is output to the headphones terminal.
(2) Insert alignment tape CS-123 into deck B and put the set into the REC mode.
(3) Adjust the signal frequency to 10kHz.
(4) Put the set into the PB mode and adjust RV704 (L-CH) and RV804 (R-CH) in the REC mode so that the level difference between 315Hz and 10kHz is within 0±0.5dB.
(5) Repeatedly put the set into the REC and PB modes two to four times and adjust the bias.

Adjustable limits :

The playback level of 10kHz signal relative to that of 315Hz : 0dB±0.5dB

Adjustment Location : main TC board

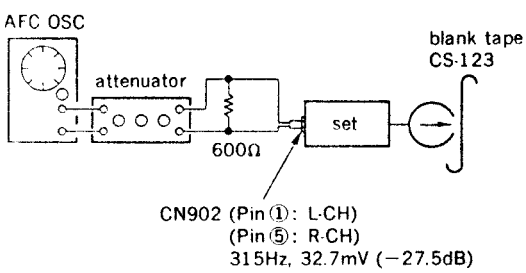
Record Level Adjustment DECK B

Setting :

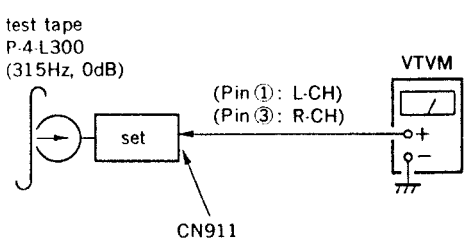
TAPE SELECT switch : TYPE I

Procedure :

1. Mode : record



2. Mode : playback



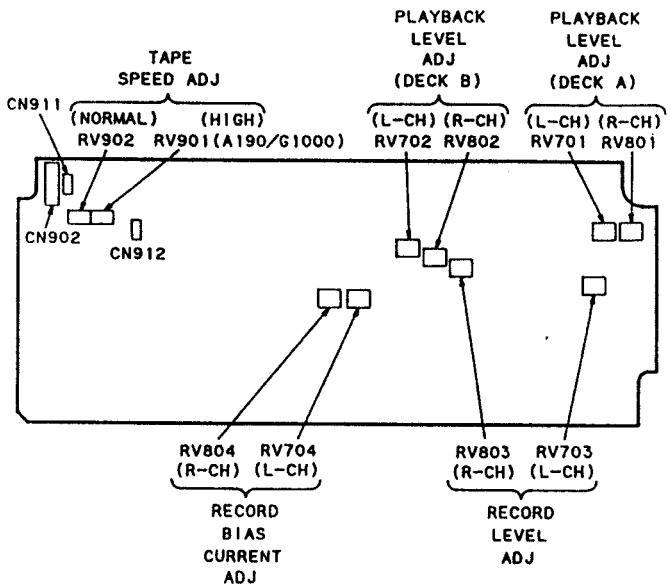
(1) Supply a 32.7mV (−27.5dB) signal (315Hz) from the CD terminal.
(2) Insert alignment tape CS-123 into deck B and record the signal. Then playback the recorded portion of the tape and adjust RV703 (L-CH) and RV803 (R-CH) so that the 32.7mV (−27.5dB) signal output is obtained at CN902 terminal.

Adjustable limits :

CN911 PB level : 30.9 to 34.6mV (−28 to −27dB)

Adjustment Location : main TC board

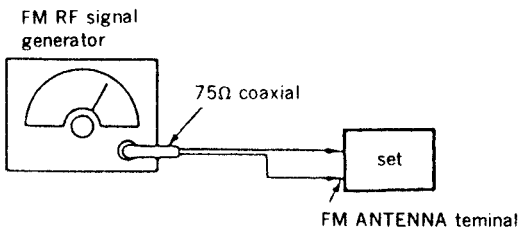
Adjustment Location : main TC board (component side)



TUNER SECTION | 0dB=1μV

• FM SECTION

Setting :



Carrier frequency : 98MHz
Modulation : 1kHz, 75kHz deviation (US, Canadian)
1kHz, 40kHz deviation (AEP, UK)

FM Tuned Level Adjustment

Band : FM

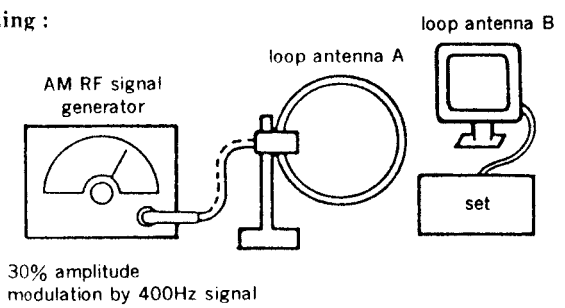
Procedure :

1. Supply a 17.8μV (25dBμ) 98MHz signal from the ANTENNA terminal.
2. Tune the set to 98MHz.
3. Adjust RV2 so that the TUNED indicator goes on.

Adjustment Location : main board

• AM SECTION

Setting :



AM (MW) Tuned Level Adjustment

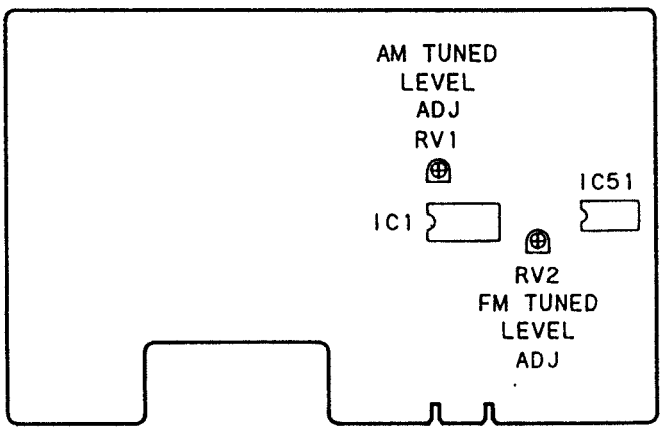
Band : AM or MW

Procedure :

1. Set loop antenna A so that the loop antenna B input level becomes 0.32mV (50dBμ).
2. Tune the set to 1,050kHz (US, Canadian) or 999kHz (AEP, UK).
3. Adjust RV1 so that the TUNED indicator goes on.

Adjustment Location : main board (component side)

Adjustment Location : main board (component side)

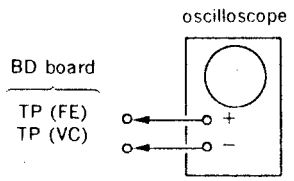


CD SECTION

Note :

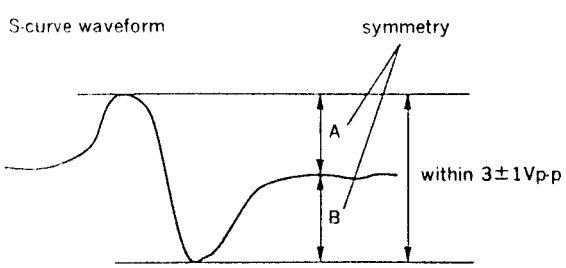
1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.
4. Clean an objective lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

S-Curve Check



Procedure :

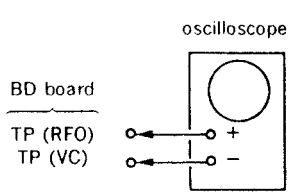
1. Connect oscilloscope to test point TP (FE) on BD board.
2. Connect between test point TP (FEI) and TP (VC) by lead wire.
3. Turned Power switch on and actuate the focus search. (actuate the focus search when disc table is moving in and out.)
4. Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 3±1Vp-p.



5. After check, remove the lead wire connected in step 2.

Note :
- Try to measure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.
- Take sweep time as long as possible and light up the brightness to obtain best waveform.

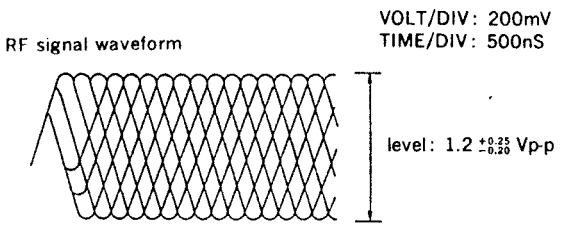
RF Level Check



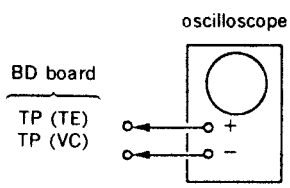
Procedure :

1. Connect oscilloscope to test point TP (RFO) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note : Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.

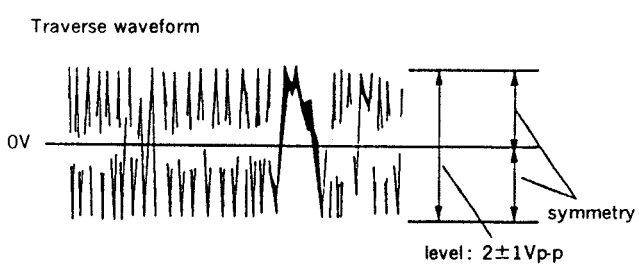


E-F Balance Check



Procedure :

1. Connect test point TP (ADJ) to ground and TP (TEI) to TP (VC) with lead wire.
2. Connect oscilloscope to test point TP (TE) on BD board.
3. Turn Power switch on.
4. Put disc (YEDS-18) is and playback.
5. Confirm that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.

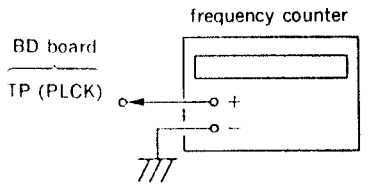


6. Remove the lead wire connected in step 1.

RF PLL Free-run Frequency Check

Procedure :

1. Connect frequency counter to test point (PLCK) with lead wire.

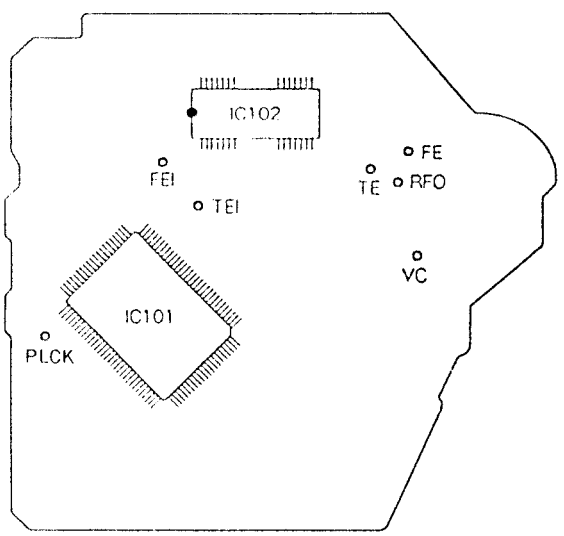


2. Turn Power switch on.
3. Confirm that reading on frequency counter is 1.3218MHz.

Adjustment Location :

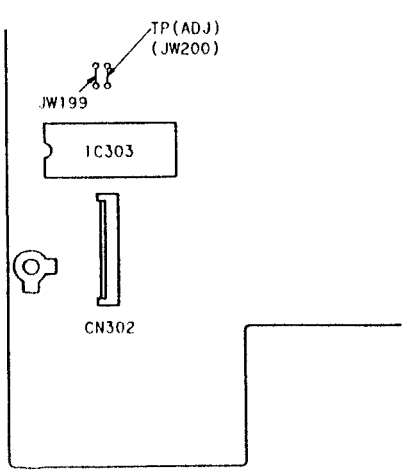
[BD BOARD]

—Conductor side—



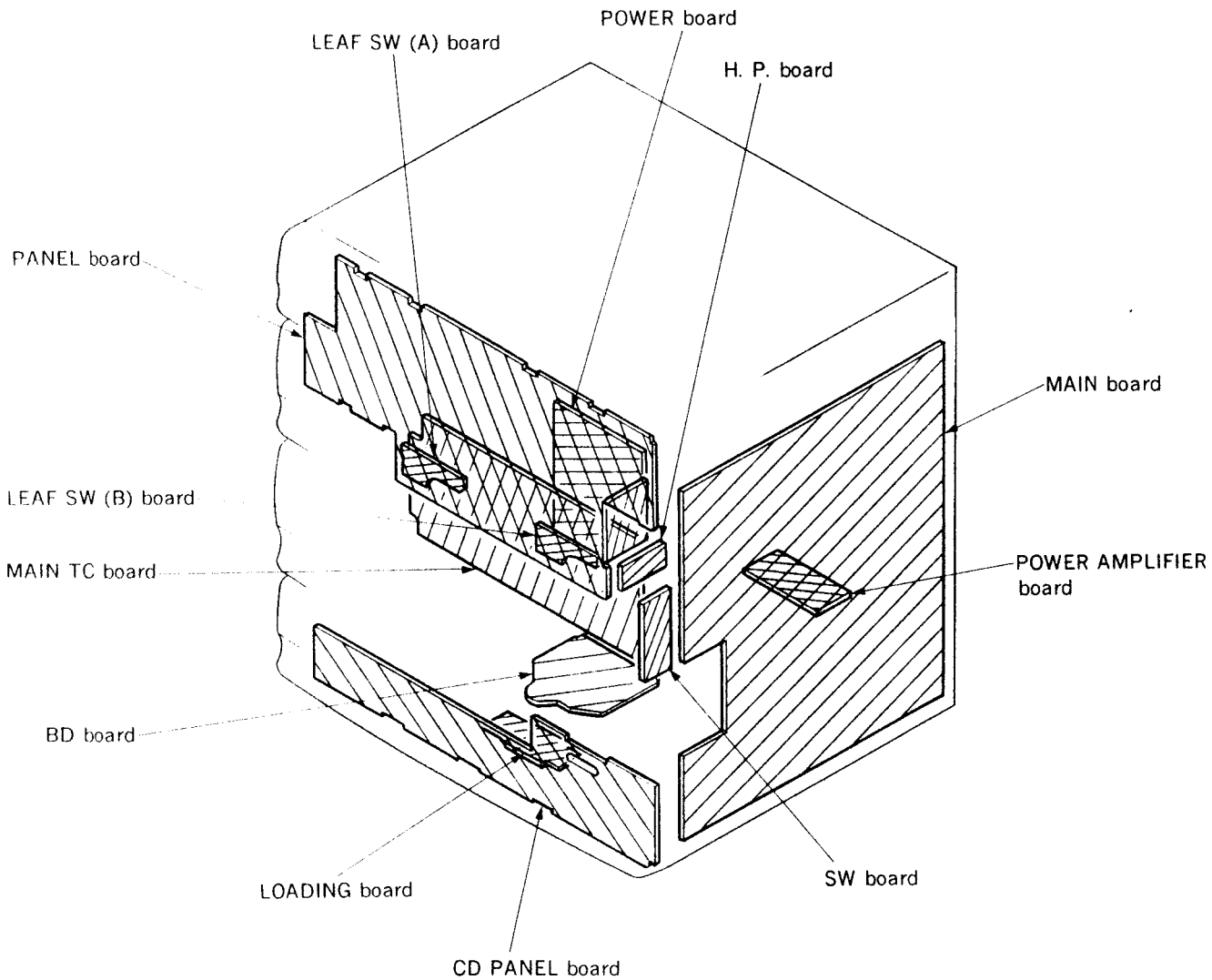
[MAIN BOARD]

—Conductor side—

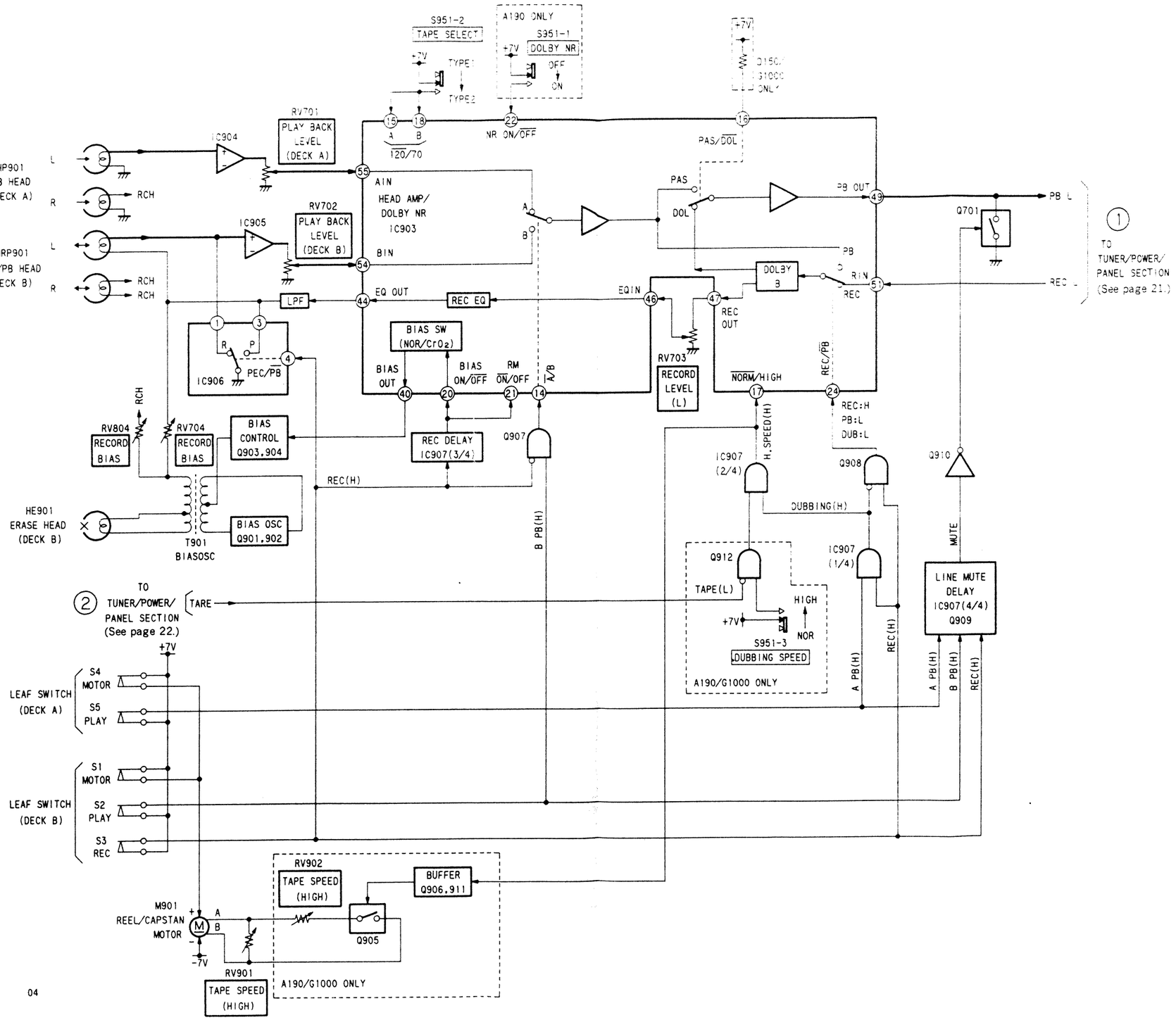


SECTION 5
DIAGRAMS

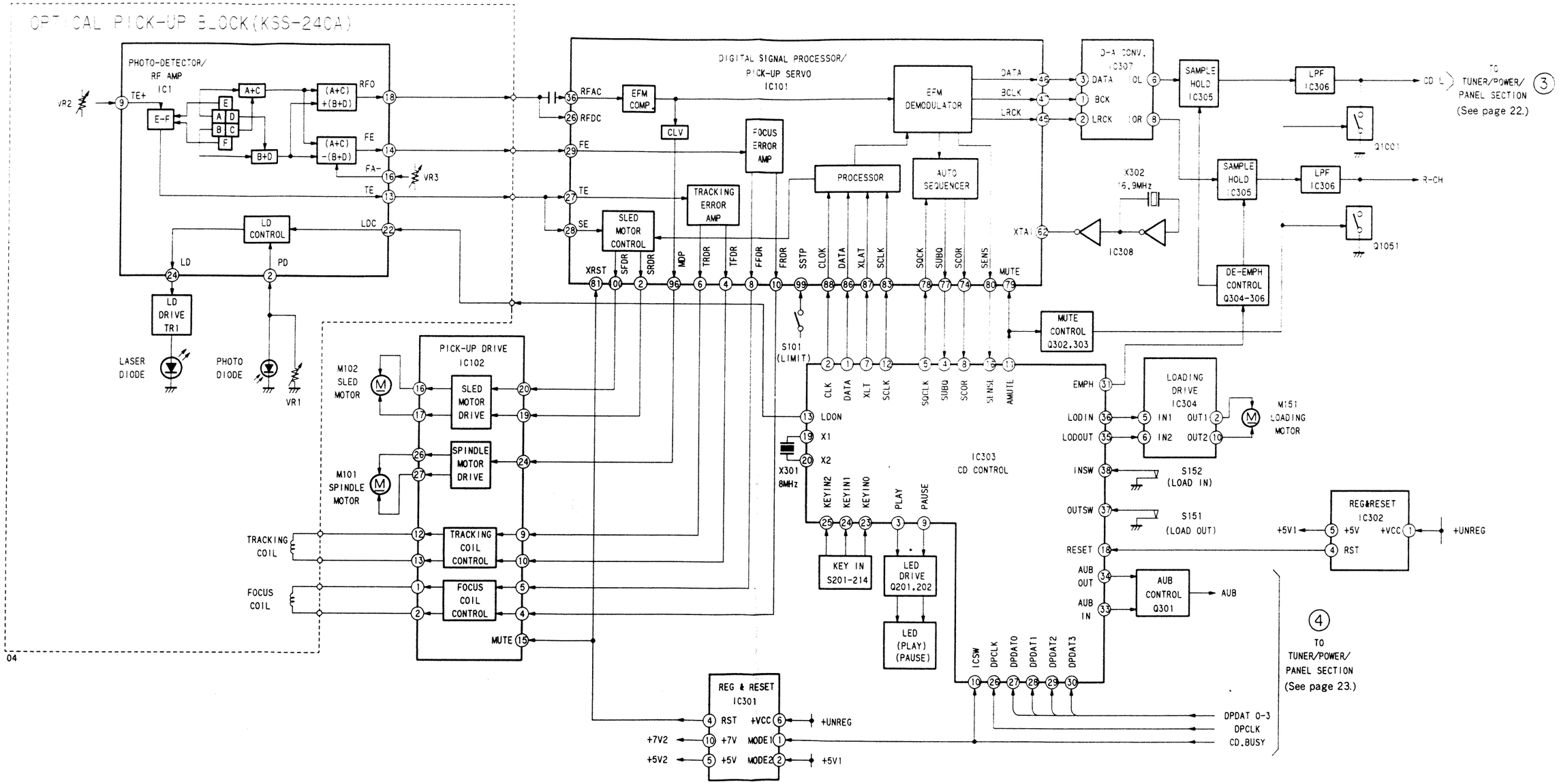
5-1. CIRCUIT BOARDS LOCATION



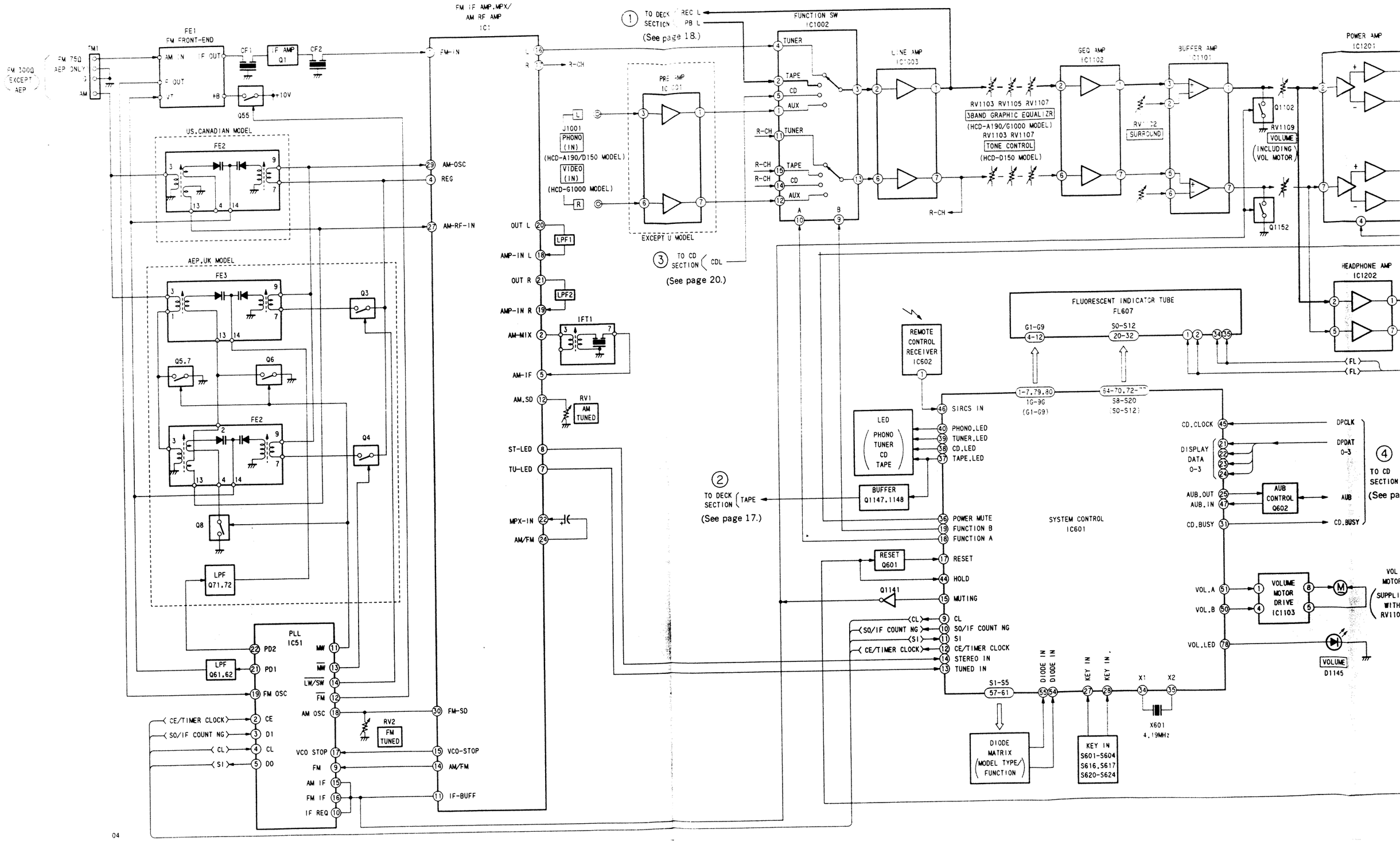
5-2. BLOCK DIAGRAM—DECK SECTION—

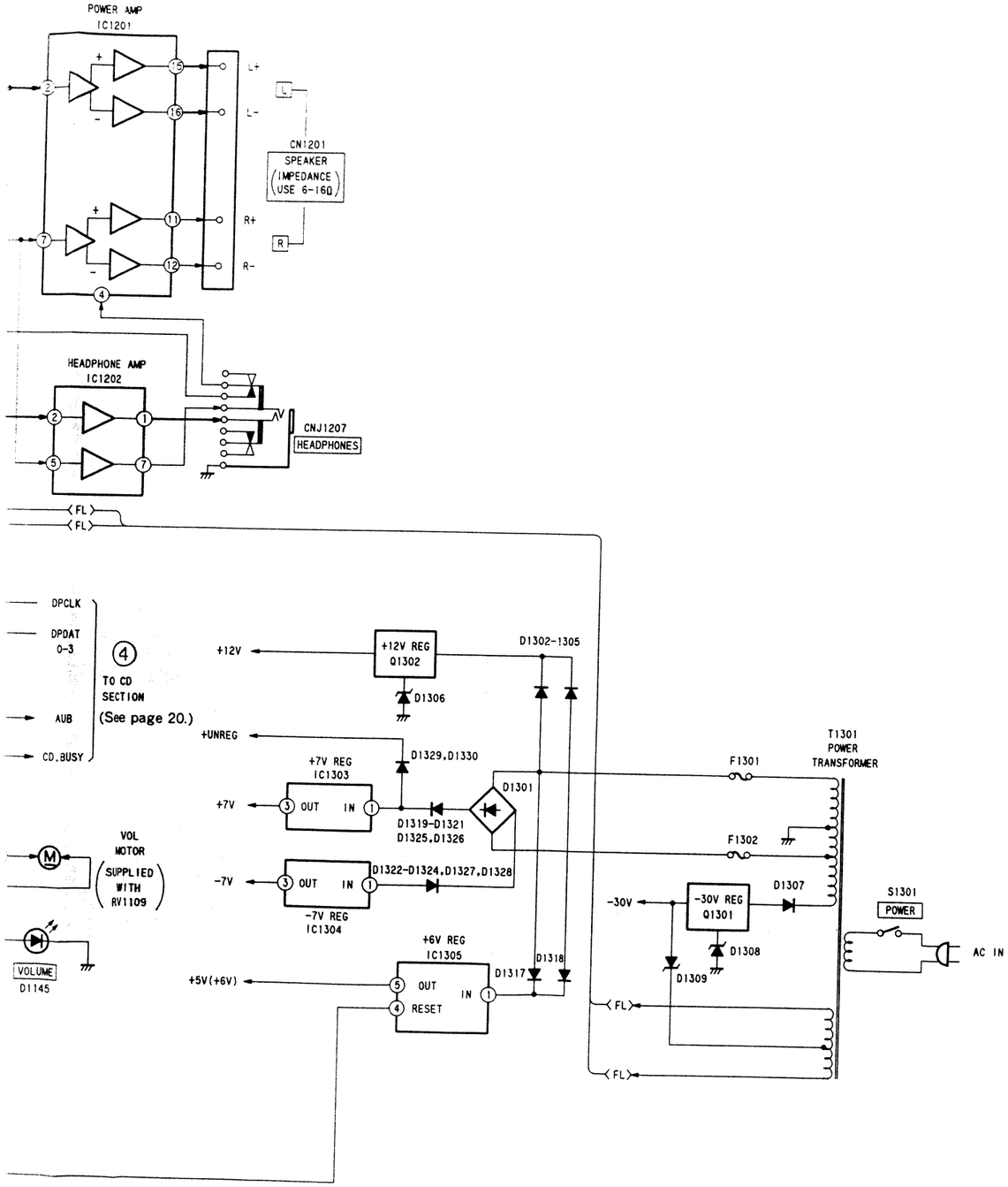


5-3. BLOCK DIAGRAM—CD SECTION—



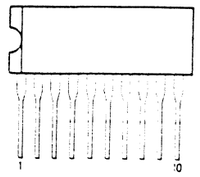
5-4. BLOCK DIAGRAM—TUNER/POWER/PANEL SECTION—



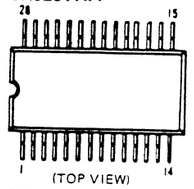


5-5. SEMICONDUCTOR LEAD LAYOUTS

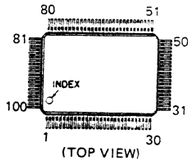
BA3962



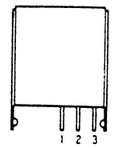
BA6297AFP



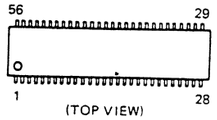
CXD2515Q



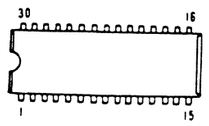
GP1U52XB



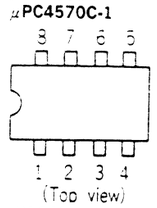
HA12172NT
HA12184NT



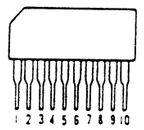
LA1835



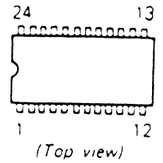
LB1639
M5218AP
TDA1545P
μPC4558C
μPC4570C-1



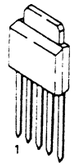
LB1641



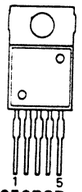
LC7218-ST



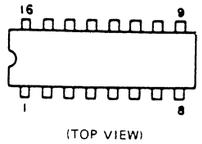
L78LR05D-MA



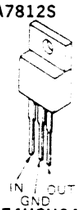
L78MR06



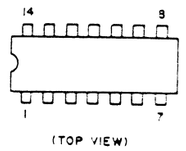
MC14052BCP



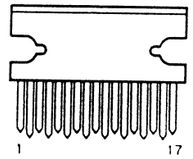
M5F78M07L
M5F79M07L
TA7812S



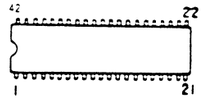
SN74HCU04AN
TC4081BP



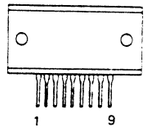
TA8221AH



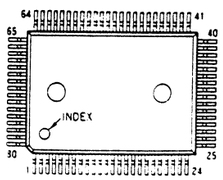
TMP87CH46N-4067



μPC1330HA



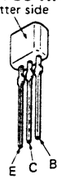
μPD78042GF
-053-3B9



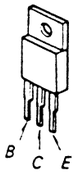
DTA114ES
DTA124ES
DTA144ES
DTC114ES
DTC124ES
DTC144ES
2SC2669-OY
2SC3622A-LK



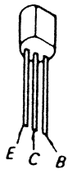
2SA1175-HFE
2SC2785-HFE
letter side



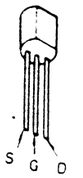
2SB1094-LK
2SD2012



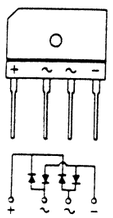
2SC3112-B
2SC945-P



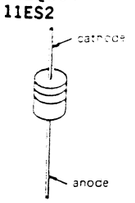
2SK246-GR3



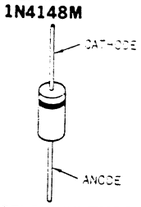
RBA-402



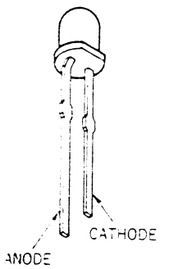
UZ-4.7BSB
UZL-12M3
UZL-33L
11EQS04
11ES2



UZP-5.6B
1N4148M



SEL5220S-TH8C
SEL5421E-TH8C
SEL5821A-TH8C



5-6. PRINTED WIRING BOARDS—CD/POWER/TUNER SECTION—

• Refer to page 24 for Semiconductor Lead Layouts.

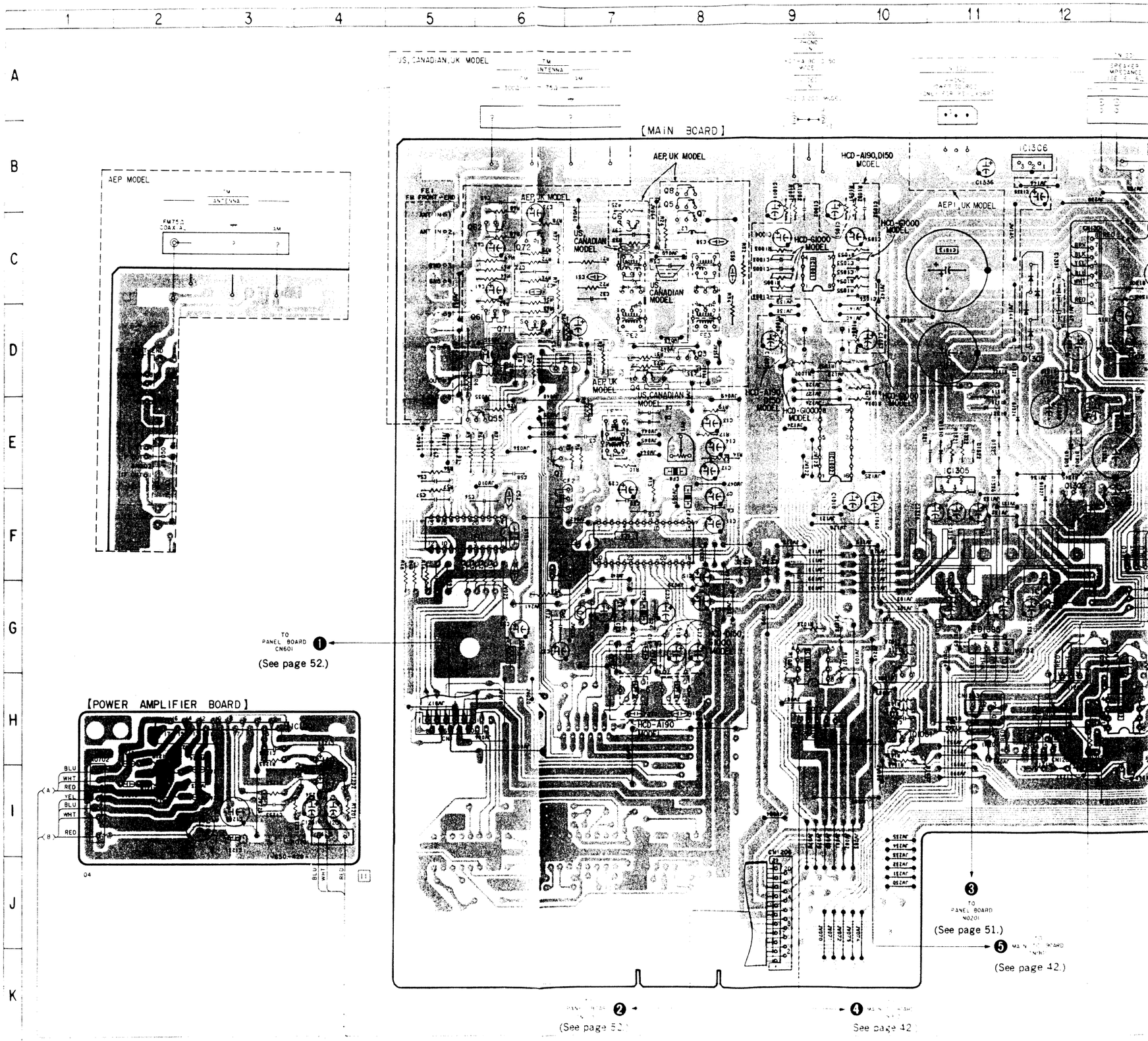
• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D1	E-5	IC304	K-16
D201	H-20	IC305	C-16
D202	I-21	IC306	C-15
D301	F-15	IC307	J-14
D302	J-16	IC308	J-15
D304	J-15	IC1001	C-9
D1201	H-11	IC1002	E-9
D1301	D-12	IC1003	G-9
D1302	E-13	IC1201	H-4
D1303	E-13	IC1202	H-13
D1304	E-12	IC1303	G-11
D1305	E-12	IC1304	G-12
D1306	F-12	IC1305	E-11
D1307	C-13	IC1306	B-12
D1308	C-13		
D1309	D-13	Q1	E-6
D1310	E-11	Q3	D-8
D1317	D-12	Q4	D-7
D1318	D-12	Q5	B-8
D1319	D-11	Q6	C-7
D1320	E-11	Q7	C-8
D1321	E-11	Q8	B-8
D1322	D-11	Q55	E-5
D1323	D-11	Q61	D-6
D1324	E-11	Q62	C-6
D1325	E-11	Q71	D-6
D1326	E-11	Q72	C-6
D1327	F-12	Q201	I-20
D1328	G-19	Q202	I-21
D1329	G-19	Q301	G-15
D1330	G-13	Q302	K-14
D1385	G-11	Q303	J-14
		Q304	B-16
IC1	F-7	Q305	C-16
IC51	F-5	Q306	C-16
IC101	E-25	Q1001	H-10
IC102	D-26	Q1051	H-10
IC301	D-16	Q1301	D-13
IC302	E-15	Q1302	F-12
IC303	G-15		

Note :

- ○— : parts extracted from the component side.
- ● : Through hole.
- ⬚→ indicates side identified with part number.
- ▒▒ : Pattern on the side which is seen.
- ▒▒ : Pattern on the rear side.
- Abbreviation

  AEP1 : AEP unit with PHONO POWER SOURCE



5-6. PRINTED WIRING BOARDS—CD/POWER/TUNER SECTION—

• Refer to page 24 for Semiconductor Lead Layouts.

• Semiconductor Location

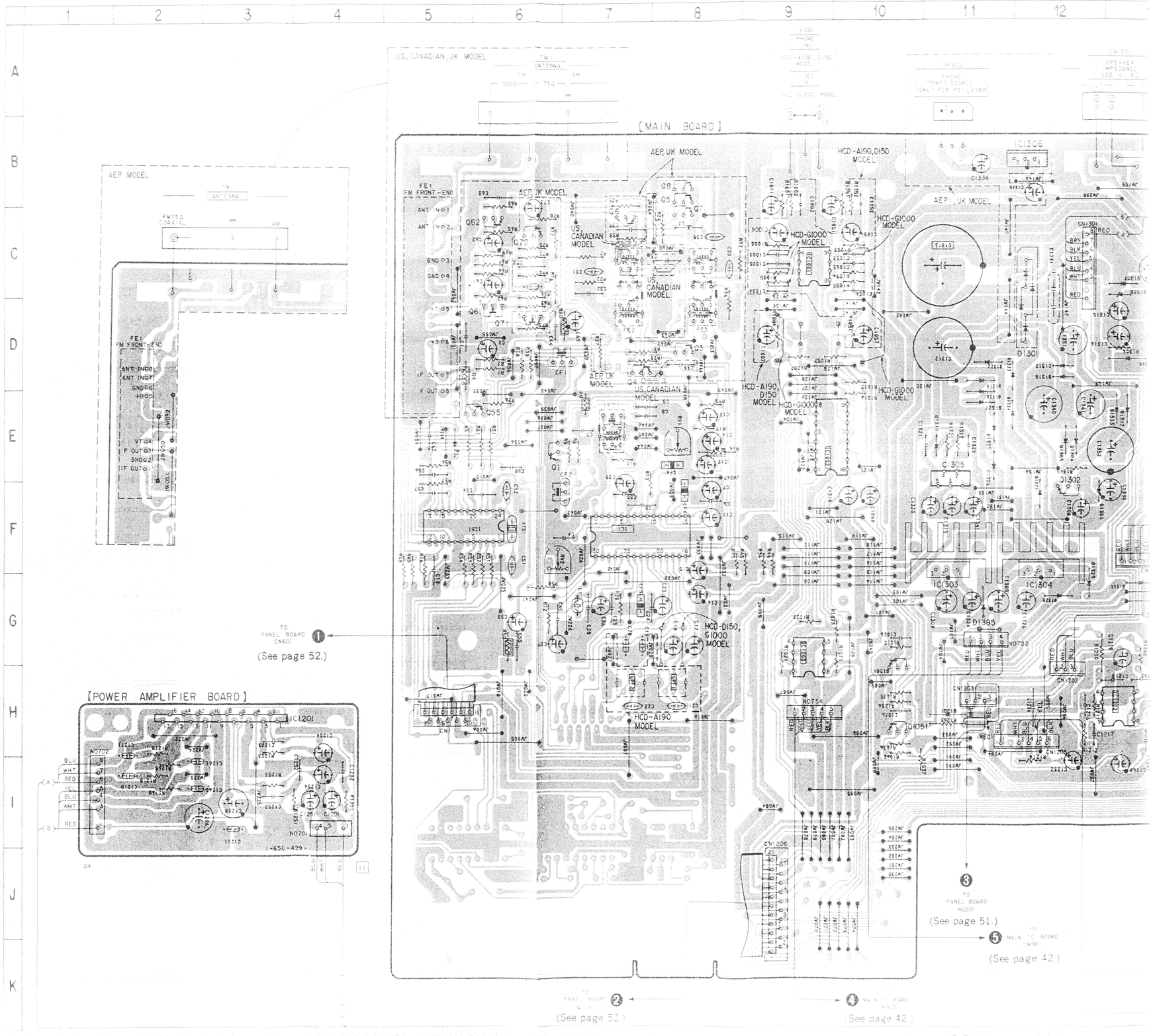
Ref. No.	Location	Ref. No.	Location
D1	E-5	IC304	K-16
D201	H-20	IC305	C-16
D202	I-21	IC306	C-15
D301	F-15	IC307	J-14
D302	J-16	IC308	J-15
D304	J-15	IC1001	C-9
D1201	H-11	IC1002	E-9
D1301	D-12	IC1003	G-9
D1302	E-13	IC1201	H-4
D1303	E-13	IC1202	H-13
D1304	E-12	IC1303	G-11
D1305	E-12	IC1304	G-12
D1306	F-12	IC1305	E-11
D1307	C-13	IC1306	B-12
D1308	C-13		
D1309	D-13	Q1	E-6
D1310	E-11	Q3	D-8
D1317	D-12	Q4	D-7
D1318	D-12	Q5	B-8
D1319	D-11	Q6	C-7
D1320	E-11	Q7	C-8
D1321	E-11	Q8	B-8
D1322	D-11	Q55	E-5
D1323	D-11	Q61	D-6
D1324	E-11	Q62	C-6
D1325	E-11	Q71	D-6
D1326	E-11	Q72	C-6
D1327	F-12	Q201	I-20
D1328	G-19	Q202	I-21
D1329	G-19	Q301	G-15
D1330	G-13	Q302	K-14
D1385	G-11	Q303	J-14
		Q304	B-16
IC1	F-7	Q305	C-16
IC51	F-5	Q306	C-16
IC101	E-25	Q1001	H-10
IC102	D-26	Q1051	H-10
IC301	D-16	Q1301	D-13
IC302	E-15	Q1302	F-12
IC303	G-15		

Note :

- ○— : parts extracted from the component side.
- ● : Through hole.
- ⊏⊢ indicates side identified with part number.
- ▩ : Pattern on the side which is seen.
- ▨ : Pattern on the rear side.

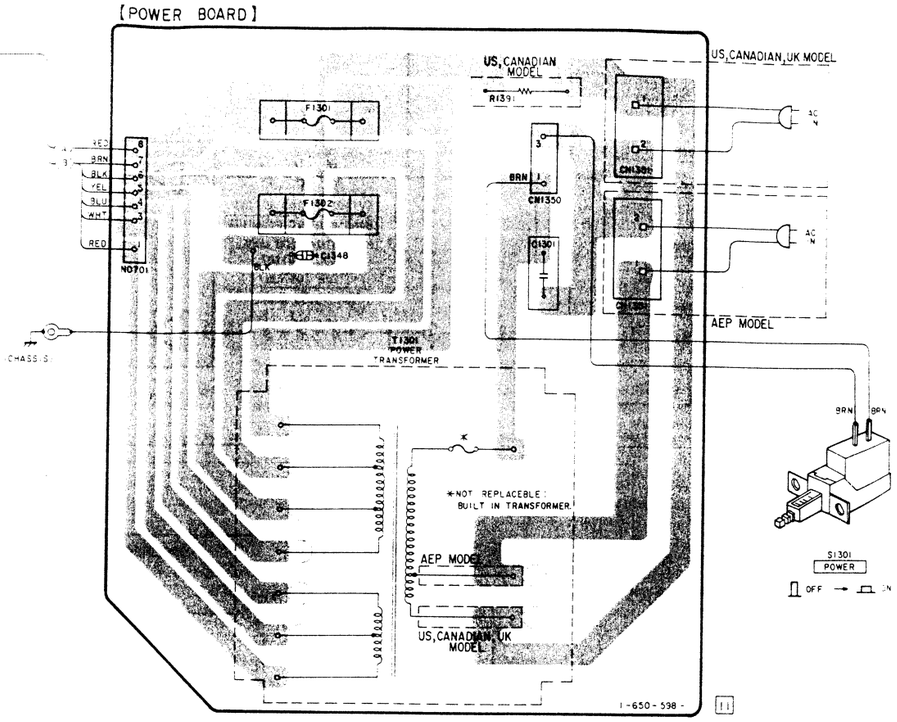
• Abbreviation

AEP1 : AEP unit with PHONO POWER SOURCE

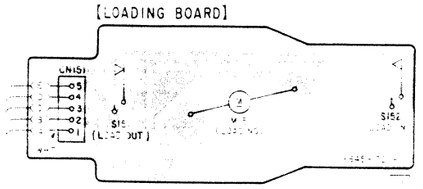


14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

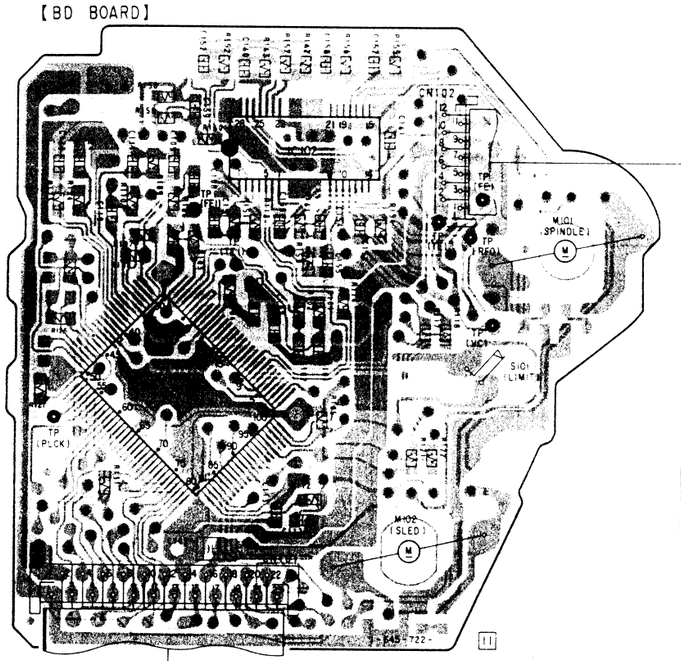
【POWER BOARD】



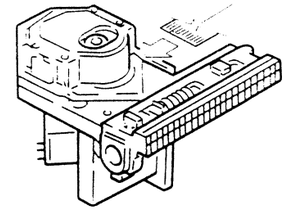
【LOADING BOARD】



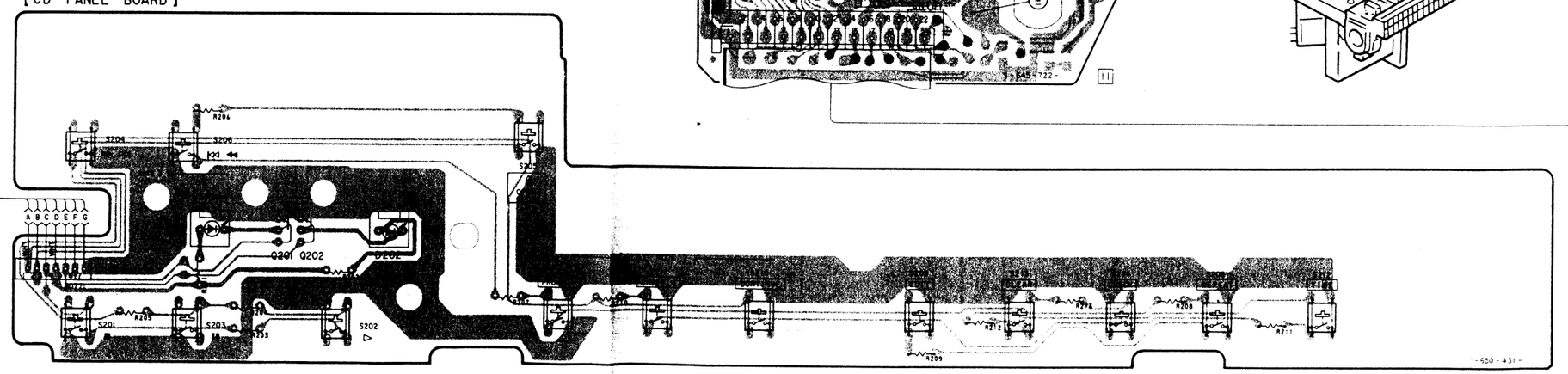
【BD BOARD】



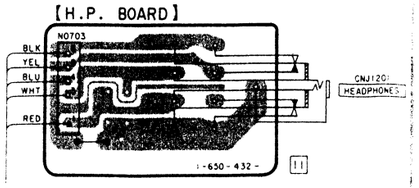
OPTICAL PICK-UP BLOCK (KSS-240A)

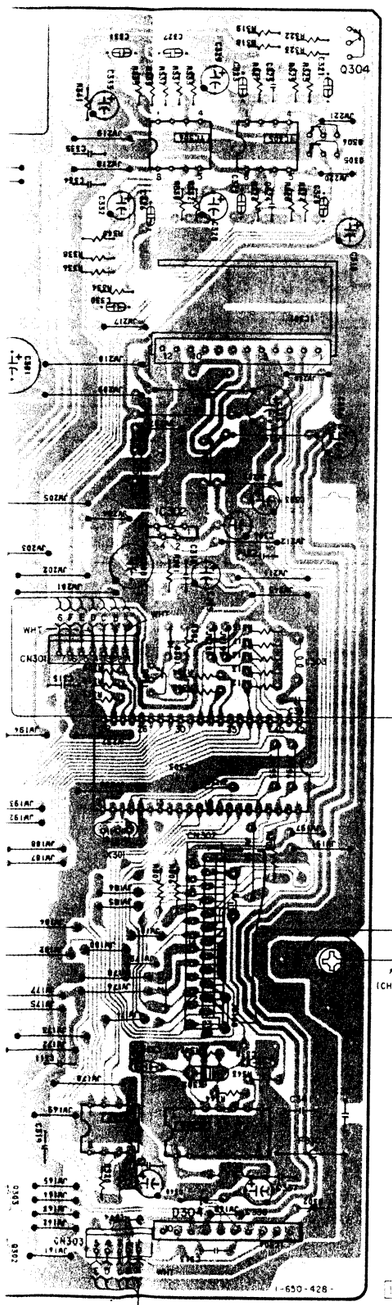


【CD PANEL BOARD】



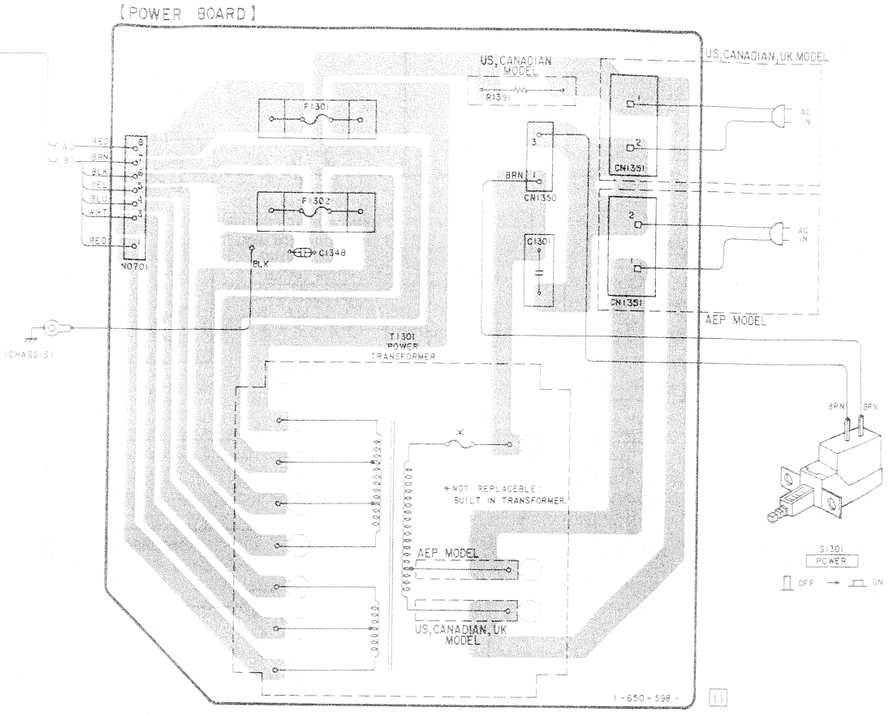
【H.P. BOARD】



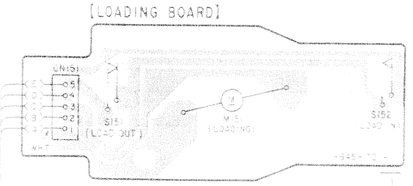


14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

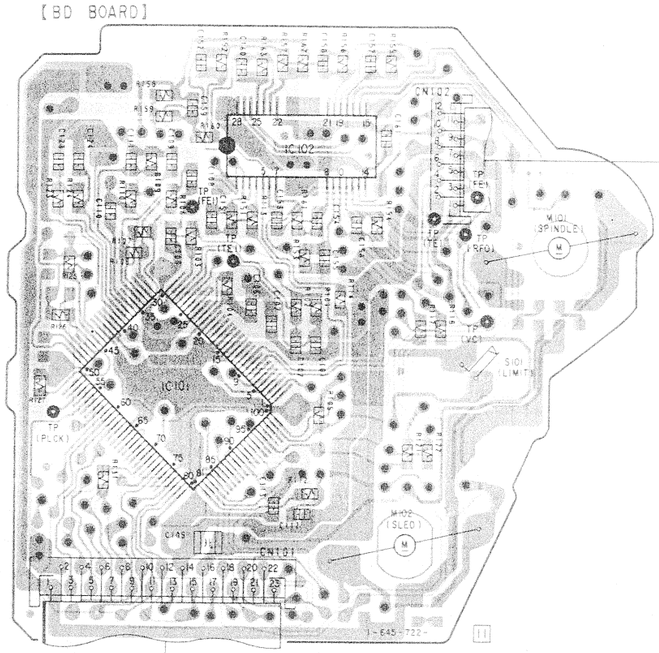
【POWER BOARD】



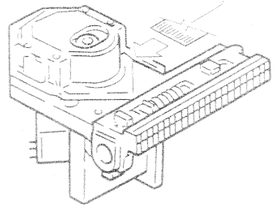
【LOADING BOARD】



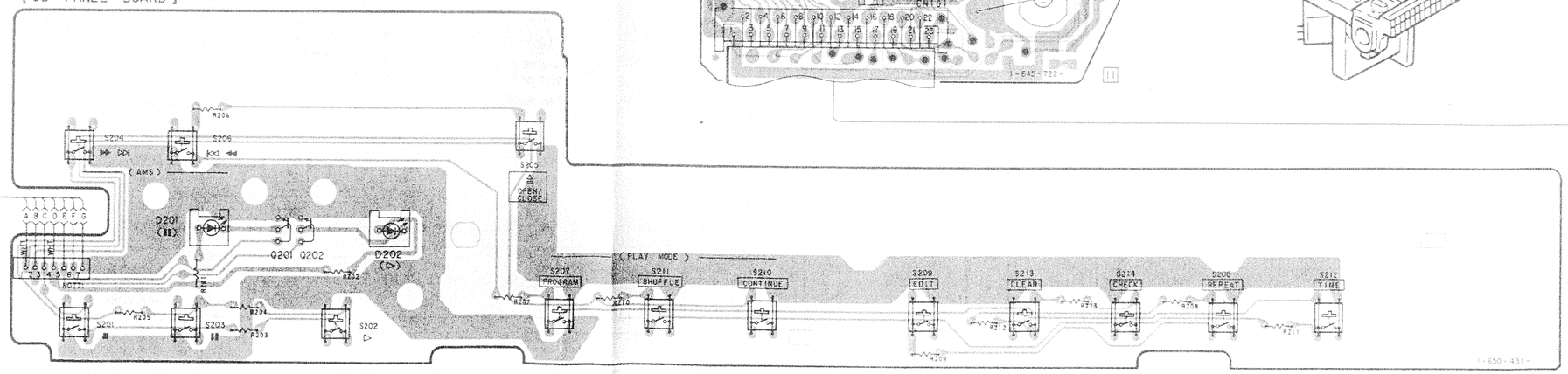
【BD BOARD】



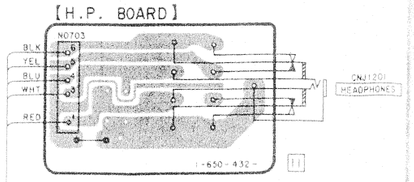
OPTICAL PICK-UP BLOCK (KSS-240A)

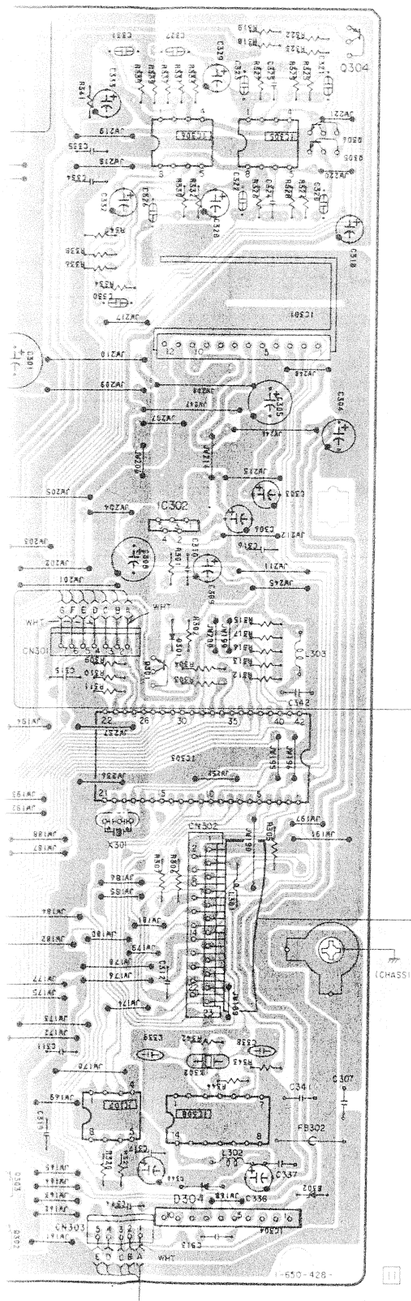


【CD PANEL BOARD】

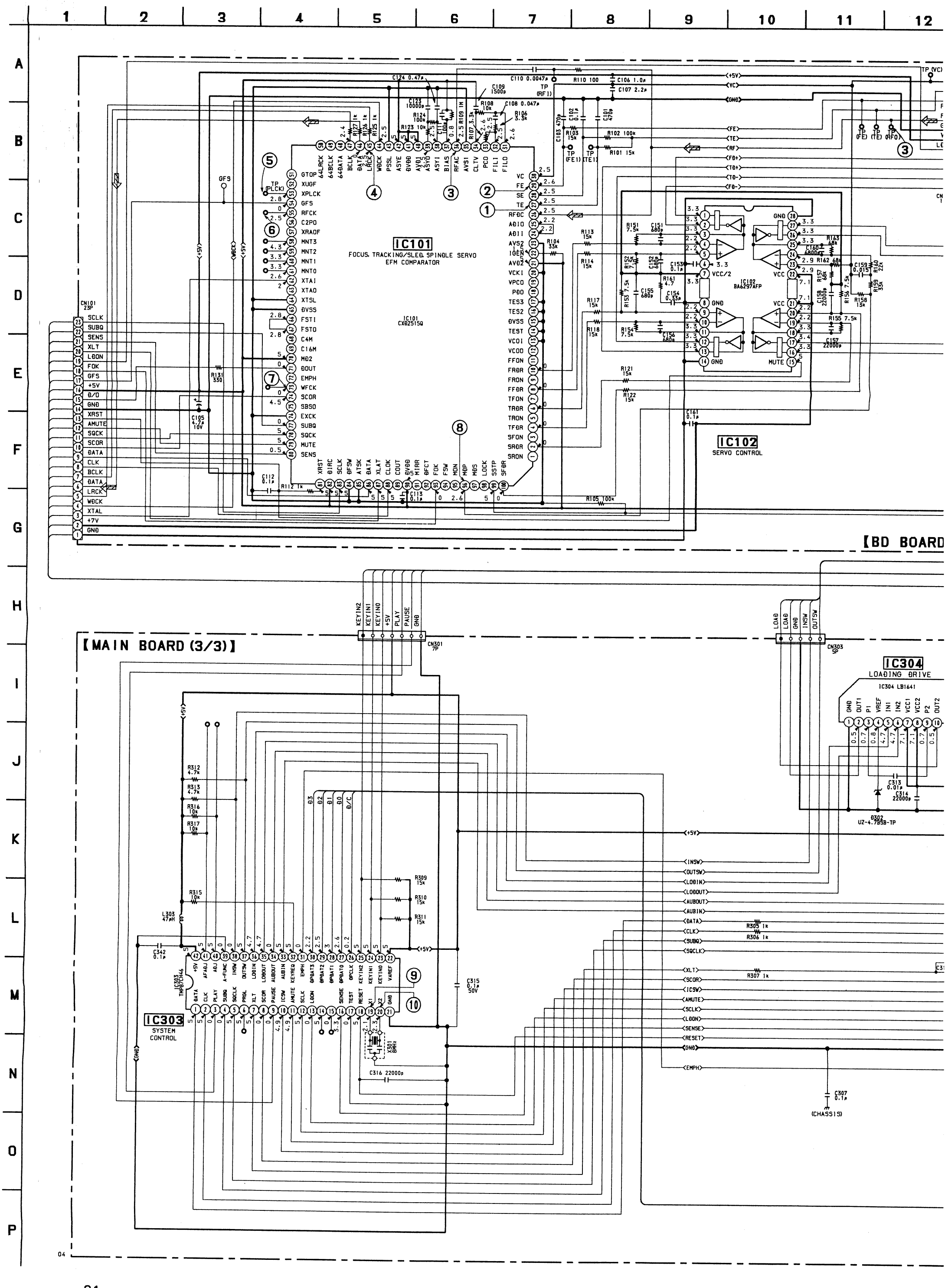


【H.P. BOARD】





5-7. SCHEMATIC DIAGRAM—CD SECTION— • Refer to page 54 for IC Block Diagrams.



【CD PANEL BOARD】

CHECK S214
CLEAR S213
TIME S212
SHUFFLE S211
CONTINUE S210
EDIT S209
REPEAT S208
PROGRAM S207
S206
OPEN/CLOSE S205
S204
S203
S202
S201
(PLAY MODE)
(AMS)
R213 1.5k
R212 1.2k
R211 1.2k
R210 1k
R209 1.2k
R208 1.2k
R207 1.2k
R206 1k
R205 1.2k
R204 1.2k
R203 1k
B201 SEL5621A-TH8C (II)
R201 330
Q201 BA1L4M-TP
R202 220
B202 SEL5421E-TH8C (▷)
Q202 BA1L4M-TP
Q201, 202 LED DRIVE
NO.201 7P
KEYIN2 KEYIN1 KEYIN0 +5V PLAY PAUSE GND

【LOADING BOARD】
OUTSW
INSW
GND
LOAD
LOAD
CN151
S151 (LOAD OUT)
S152 (LOAD IN)
M151 (LOADING)

TP (VC)
VC TE FE FZC RFO GND VCC LDON F+ T+ T- F-
CN102 12P
M101 (SPINDLE)
M102 (SLED)
S101 (LIMIT)
FOCUS COIL
TRACKING COIL
IC1 M52104FP
IC1 DETECTOR, RF AMP
OPTICAL PICK-UP BLOCK (KSS-240A)

D304 1SEQ504
L302 47μH
C337 0.1μ
C336 100μ 10V
IC308 74HC004
IC308 OSC
X302 16.9MHz
R342 1M
R344 560
C339 27p CH
C338 22p CH
C341 0.1μ
FB302

IC301 +5V/+7V REG.
IC301 BA3962
IC302 L78LR05
IC302 +5V REG.
CN302 23P
SCLK SUBQ SENS XLT LDON FOK GFS +5V D/O GND XRST AMUTE SQCK SCOR DATA CLK BCLK DATA LRCK WDCK XTAL +7V GND
L301 3.3μH
R343 470
C308 470μ 10V
C306 0.47μ 50V
C311 0.1μ 50V
C303 4.7μ 50V
C301 47μ 25V
C304 220μ 10V
C305 470μ 10V

IC304 DRIVE
IC304 LB1641
IN1 IN2 VCC1 VCC2 P2 OUT2
C313 0.01μ
C314 22000μ
+7V

AUBIN
AUBOUT
R303 1k
D301 1N4148M
R301 10k
R304 4.7k
R302 10k
Q301 2SC2785TP-HFE SWITCH
C310 0.1μ 50V
C309 100μ 10V
AUB
M-GND

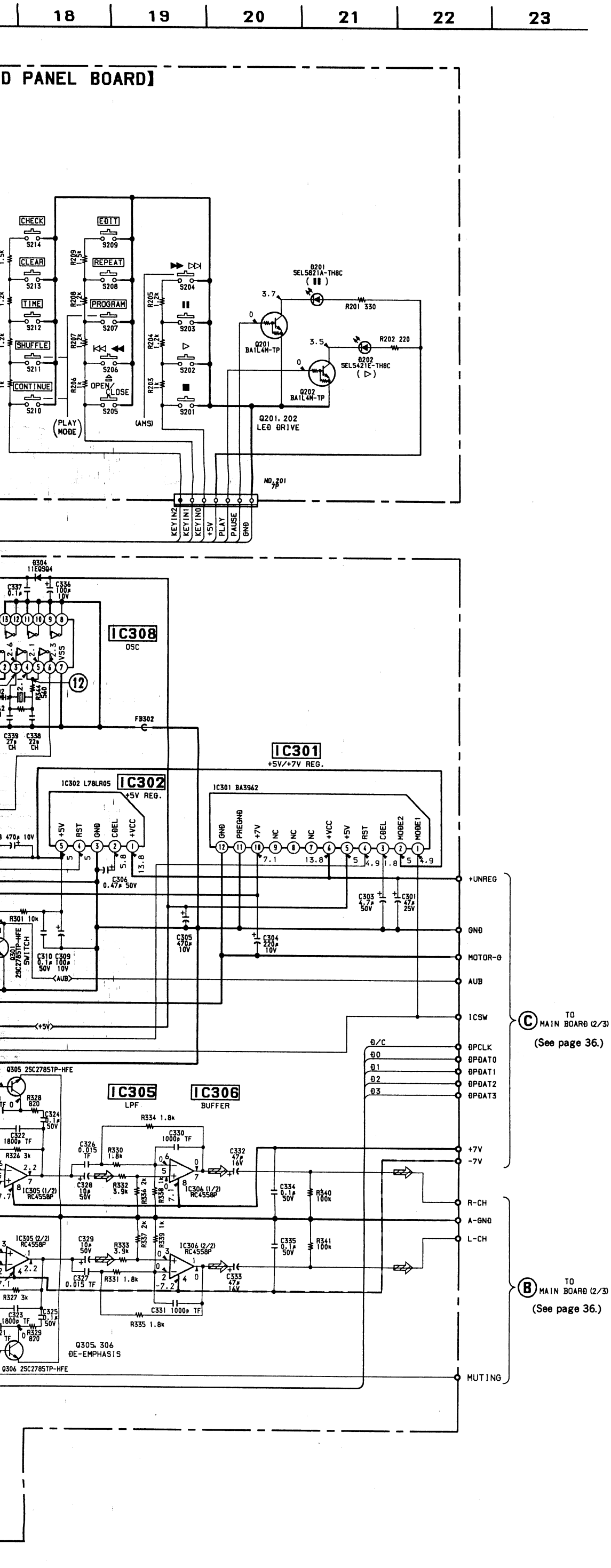
+UNREG
GND
MOTOR-G
AUB
ICSW
ĐPCLK
ĐPĐAT0
ĐPĐAT1
ĐPĐAT2
ĐPĐAT3
Đ/C Đ0 Đ1 Đ2 Đ3
+7V
-7V
R-CH
A-GNĐ
L-CH
MUTING

Ⓒ TO MAIN BOARĐ (2/3)
(See page 36.)
Ⓑ TO MAIN BOARĐ (2/3)
(See page 36.)

IC307 Đ/A CONVERTER
IC307 TDA1543P
C312 470p
C340+ 10μ 50V
C317 0.1μ 50V
C318 10μ 50V
C319 0.1μ 50V
R320 27k
R321 27k

Q304 EMPHASIS SWITCH
Q304 BN1A4M-TP
R318 10k
R319 15k
Q303 BN1A4M-TP
Q302 BA1A4M-TP
Q302, 303 MUTE SWITCH

Q305 2SC2785TP-HFE
R322 4.7k
C320 0.01 TF
R328 820
R324 330
C322 1800p TF
R326 3k
C324 0.1μ 50V
IC305 (1/2) RC4558P
IC305 LPF
IC306 BUFFER
R334 1.8k
C330 1000p TF
C326 0.015 TF
R330 1.8k
C328 10μ 50V
R332 3.9k
R336 2k
R338 1k
C332 47μ 16V
IC306 (1/2) RC4558P
C334 0.1μ 50V
R340 100k
IC305 (2/2) RC4558P
C329 10μ 50V
R333 3.9k
R337 2k
R339 1k
C327 0.015 TF
R331 1.8k
C333 47μ 16V
C335 0.1μ 50V
R341 100k
C331 1000p TF
R335 1.8k
R323 4.7k
C321 0.01 TF
R329 820
Q306 2SC2785TP-HFE
Q305, 306 ĐE-EMPHASIS



• **Waveforms**

1 APPROX. 400mVp-p — 2.5V
IC101 (27) PLAY

2 APPROX. 150mVp-p — 2.5V
IC101 (29) PLAY

3 1.2Vp-p
IC101 (36) PLAY (RFO)

4 5Vp-p — 22 µsec
IC101 (45)

5 5Vp-p — 0.2 µsec
IC101 (53) PLAY

6 5Vp-p — 132µsec
IC101 (55)

7 5Vp-p — 132 µsec
IC101 (73)

8 2.5Vp-p — 7.2µsec
IC101 (96) PLAY

9 3.6Vp-p — 8MHz
IC303 (19)

10 4.4Vp-p — 8MHz
IC303 (20)

11 5.2Vp-p — 16.9MHz
IC308 (3)

12 5.5Vp-p — 16.9MHz
IC308 (4), (5)

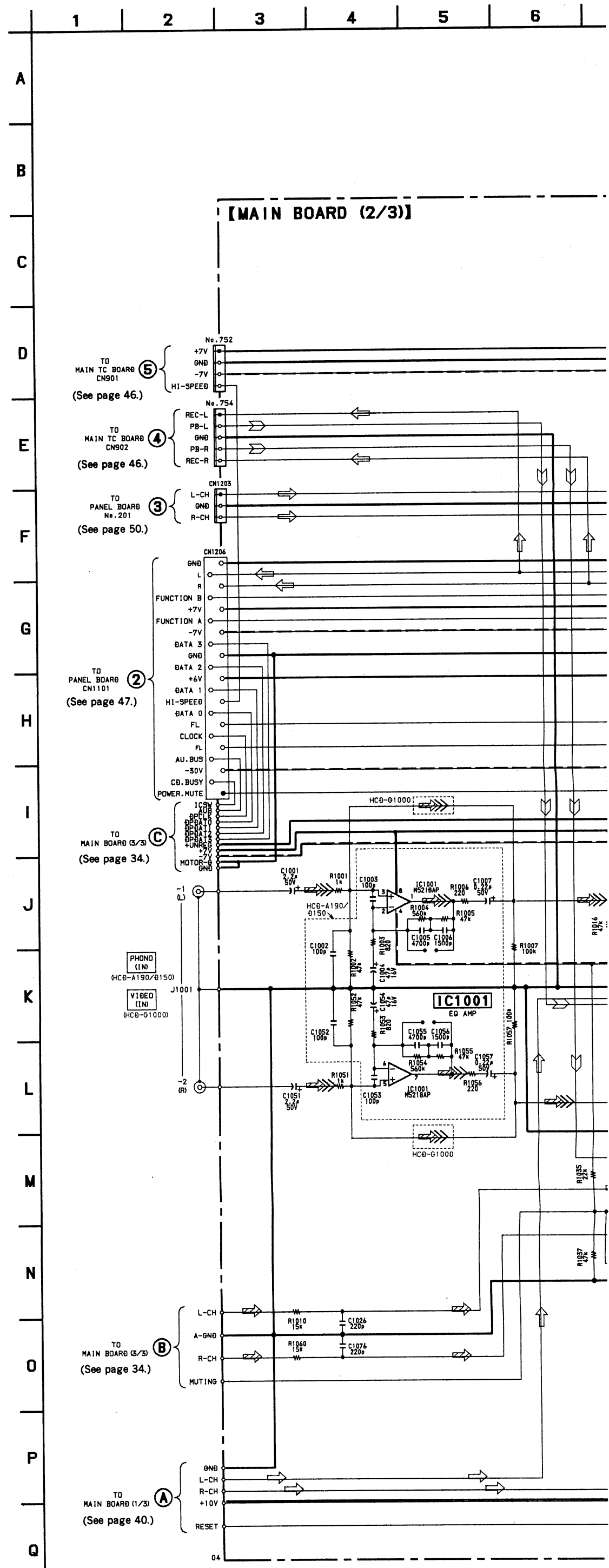
Note :

- All capacitors are in µF unless otherwise noted. pF : µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	**Note :** Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- ▬▬ : B+ Line
- ▬ ▬ : B− Line
- Voltage is dc with respect to ground under no-signal conditions.
- no mark: CD STOP
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

5-8. SCHEMATIC DIAGRAM—POWER SECTION— • Refer to page 54 for IC Block Diagrams.



Note :

- All capacitors are in μF unless otherwise noted. pF : $\mu\mu$F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- ▬▬ : B+ Line
- ▬ ▬ ▬ : B− Line
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
- no mark: FM
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  - ⇨ : FM
  - ⇨ : PB (DECK A)
  - ⇨ : PB (DECK B)
  - ⇨ : CD
  - ⇨ : PHONO/VIDEO
- Abbreviation
  AEP1 : AEP unit with PHONO POWER SOURCE

o page 54 for IC Block Diagrams.

5 6 7 8 9 10 11 12 13 14 15 16 17

【POWER AMPLIFIER BOARD】

IC1201
POWER AMP
TA8221AH
PRE VCC
POWER VCC1
POWER VCC2
IN1
NF1
PRE GND
NF2
IN2
RIPPLE
MUTE SW
STANDBY
OUT1+
OUT1-
GND1
GND2
OUT2+
OUT2-
CN1202
No.701
L IN
GND
R IN
No.702
-L
+L
GND
-R
+R
+B
STANDBY
CN1204

IC1001
EQ AMP
M5218AP

IC1002
FUNCTION SWITCH
MC14052

IC1003
LINE AMP
M5218AP

IC1303
+7V REG.
M5F78M07L

IC1304
-7V REG.
M5F79M07L

IC1306
+12V REG.
M5F7812

IC1305
+6V REG.
L78MR06

CN1302
PHONO POWER SOURCE
(ONLY FOR PS-LX56P)
AEP1, UK MODEL

Q1001, 1051
MUTE
2SC2785

Q1302
2SB2012
REG.

D1304
UZL-11M1

D1301
RBA402
RECT

D1317, 1318
RECT

D1310
1N4148M

HEADPHONE

GND

HC0-G1000

12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23

【POWER AMPLIFIER BOARD】

IC1201
TA8221AH

PRE VCC
POWER VCC1
POWER VCC2 6.8
IN1
NF1
PRE GND
NF2
IN2
RIPPLE
MUTE SW
STANDBY
OUT1+
OUT1-
GND1
GND2
OUT2+
OUT2-

No.702
-L
+L
GND
-R
+R
+B
STANDBY

CN1204

CN1201
SPEAKER
IMPEDANCE
USE 6-16Ω
(L)
(R)

IC1202
HEADPHONE AMP
IC1202
MS218AP

【H.P. BOARD】

CN1205
STANDBY
STANDBY
HP GND
HP R
HP L
No.703

CNJ1201
HEADPHONES

IC1303
+7V REG.

IC1304
-7V REG.

IC1306
+12V REG.

IC1305
+6V REG.

CN1302
PHONO
POWER SOURCE
(ONLY FOR PS-LX56P)
AEP1, UK MODEL

Q1301
2SB1375
REG.

Q1302
2SD2012
REG.

Q1306
UZL-11M1

D1302-1305
RECT

D1301
RBA402
RECT

D1317, 1318
RECT

D1307
RECT

CN1301
No.701

4A/125V (US, CANADIAN MODEL)
T4A (AEP, UK MODEL)
T1301
POWER TRANSFORMER
F1301
F1302
(CHASSIS)

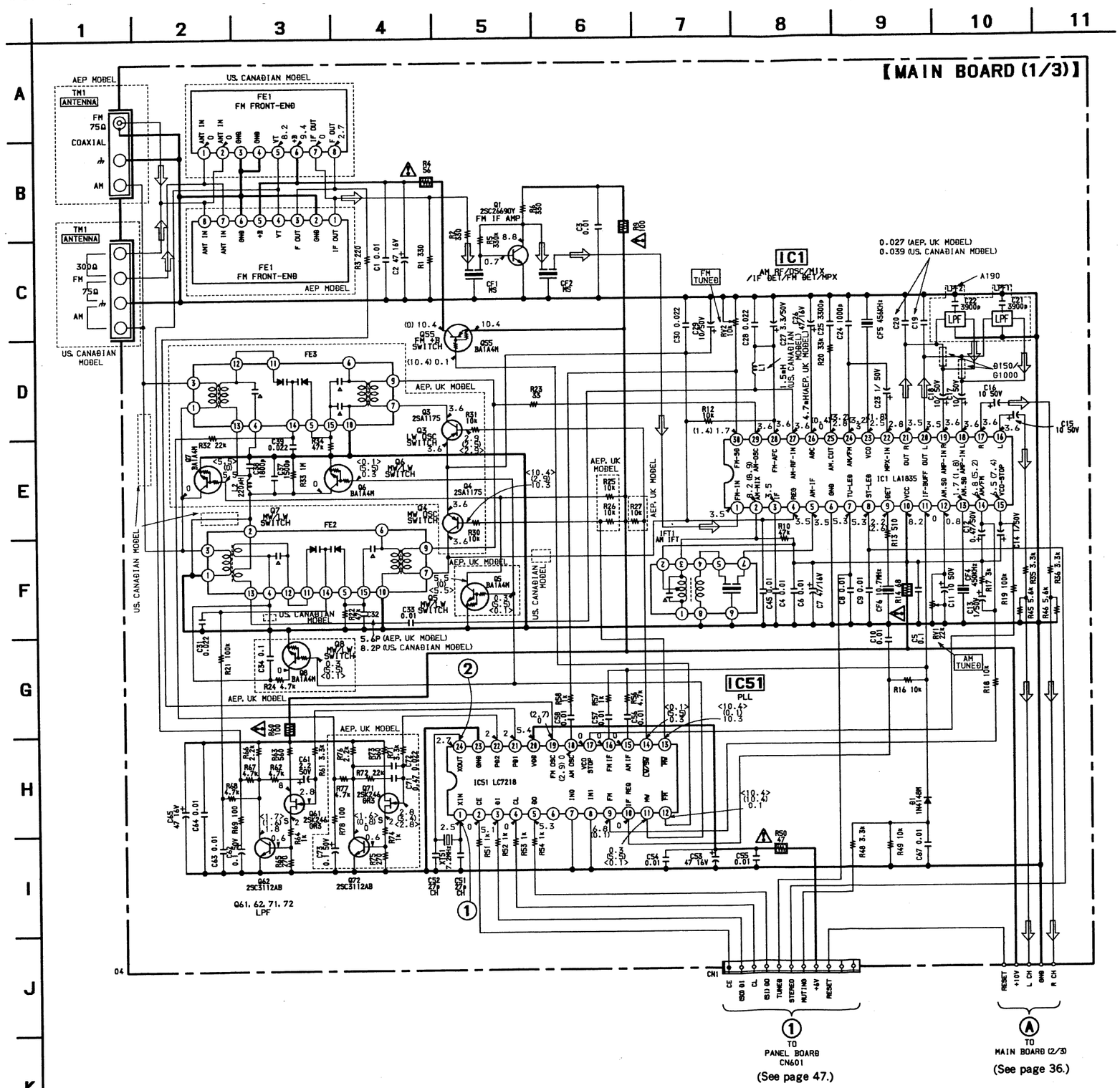
S1301
POWER
ON
OFF

CN1350
CN1351
AC IN

US, CANADIAN MODEL

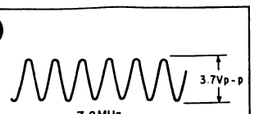
【POWER BOARD】
*:NOT REPLACEABLE:BUILT IN TRANSFORMER.

5-9. SCHEMATIC DIAGRAM—TUNER SECTION— • Refer to page 54 for IC Block Diagrams.

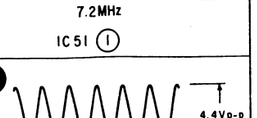


• **Waveforms**

1 IC51 (1)



2 IC51 (24)



Note :

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.

Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- ▭ : nonflammable resistor.
- ▬ : B+ Line
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark: FM
  ( ): MW
  < >: LW
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM

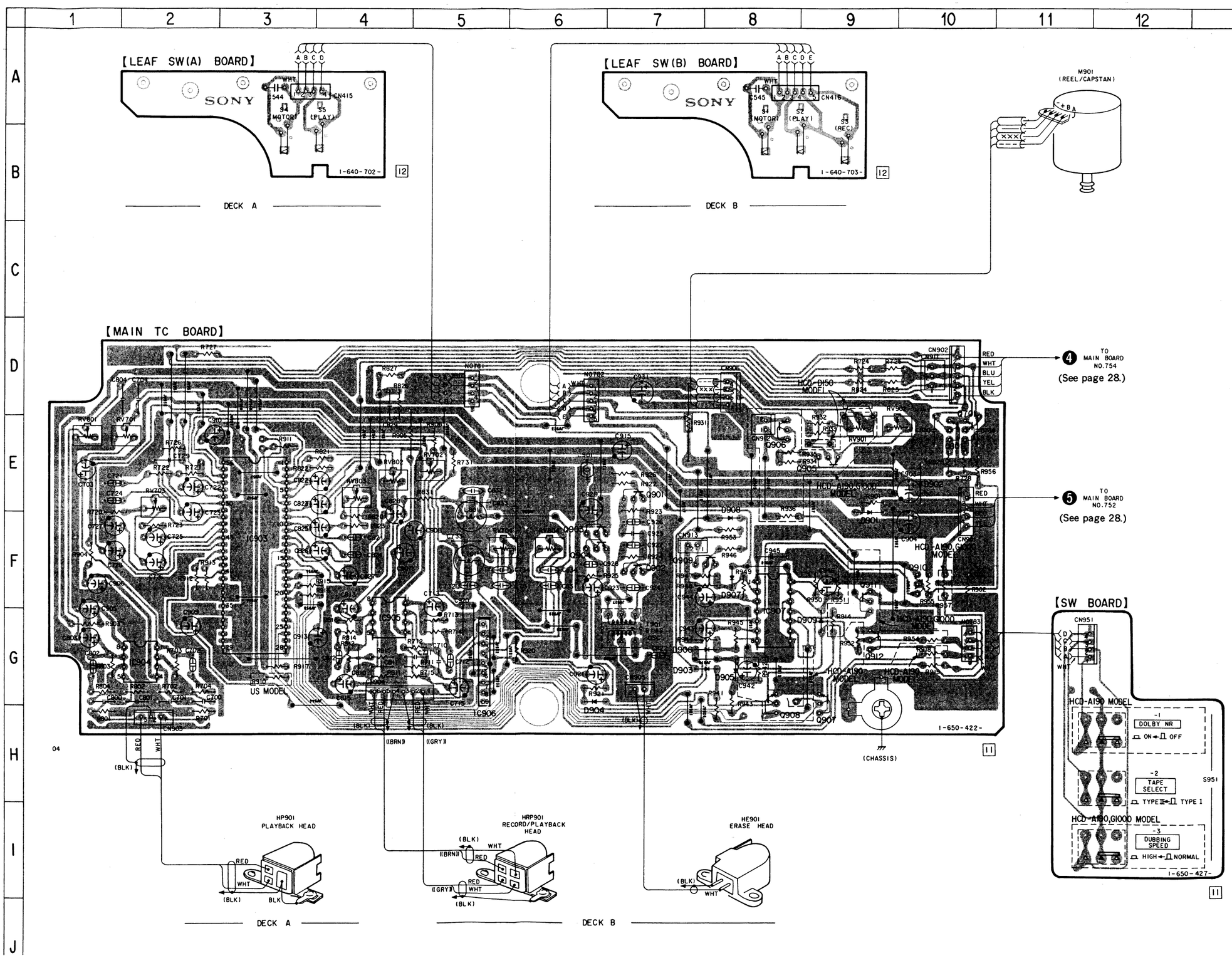
5-10. PRINTED WIRING BOARDS—DECK SECTION— • Refer to page 24 for Semiconductor Lead Layouts.

• Semiconductor Location

Ref. No.	Location
D901	E-9
D902	E-10
D903	G-7
D904	G-6
D905	G-8
D906	G-7
D907	F-8
D908	F-8
D909	G-9
IC903	F-3
IC904	G-2
IC905	G-4
IC906	G-5
IC907	F-8
Q701	E-10
Q801	E-10
Q901	E-7
Q902	F-7
Q903	F-6
Q904	F-6
Q905	E-9
Q906	E-8
Q907	G-9
Q908	G-8
Q909	F-7
Q910	F-9
Q911	F-9
Q912	G-9

Note :

• ○— : parts extracted from the component side.



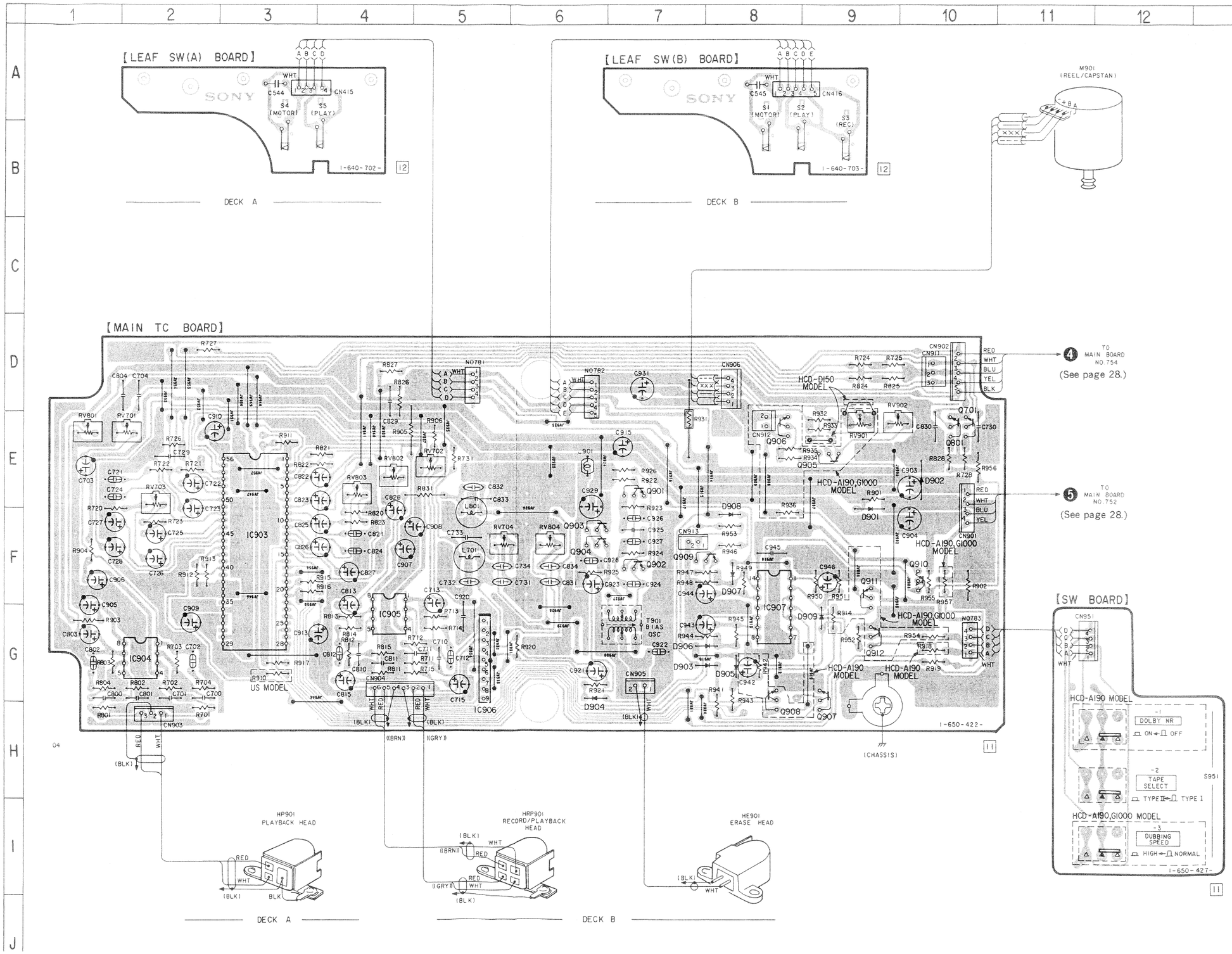
5-10. PRINTED WIRING BOARDS—DECK SECTION— • Refer to page 24 for Semiconductor Lead Layouts.

• Semiconductor Location

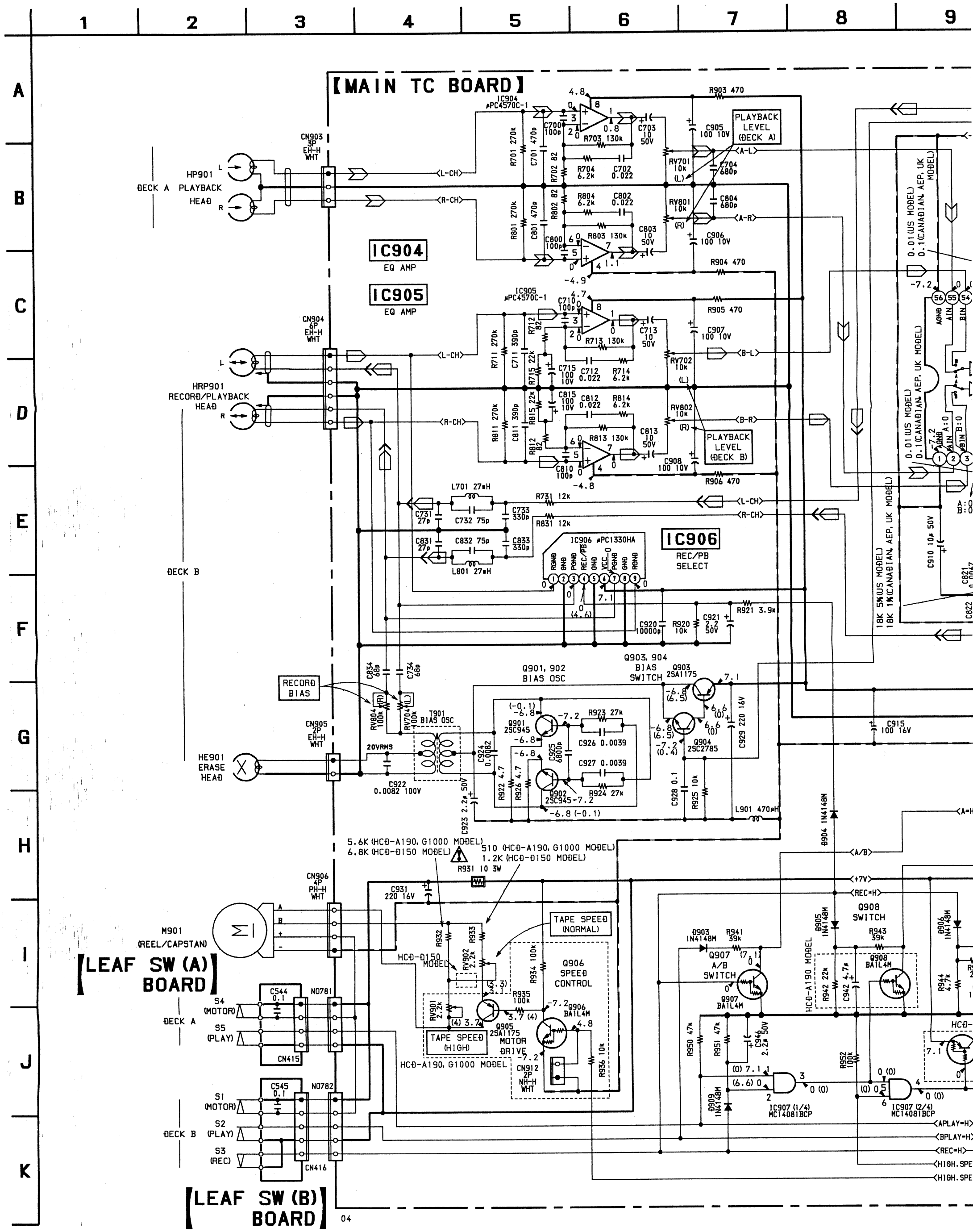
Ref. No.	Location
D901	E-9
D902	E-10
D903	G-7
D904	G-6
D905	G-8
D906	G-7
D907	F-8
D908	F-8
D909	G-9
IC903	F-3
IC904	G-2
IC905	G-4
IC906	G-5
IC907	F-8
Q701	E-10
Q801	E-10
Q901	E-7
Q902	F-7
Q903	F-6
Q904	F-6
Q905	E-9
Q906	E-8
Q907	G-9
Q908	G-8
Q909	F-7
Q910	F-9
Q911	F-9
Q912	G-9

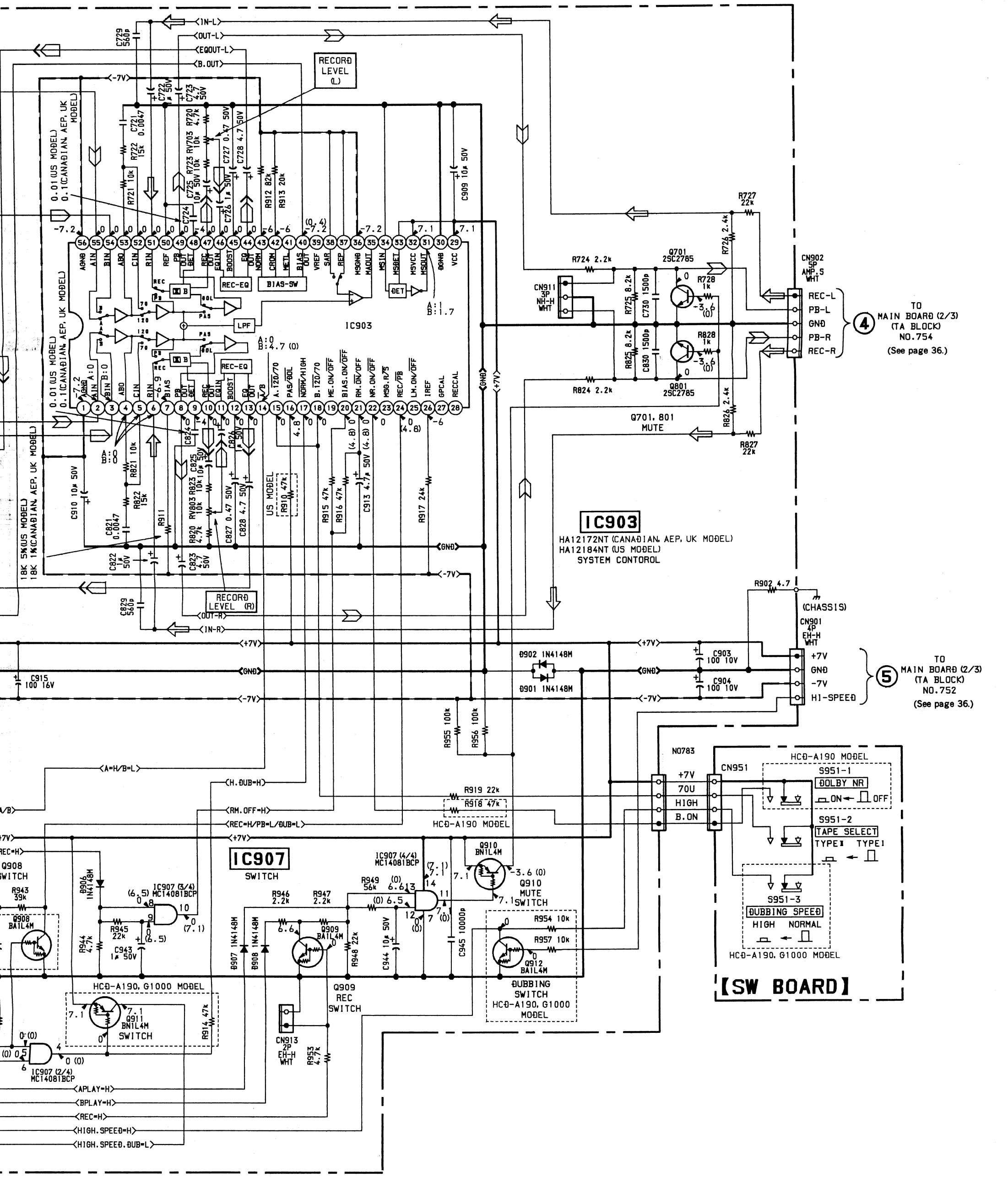
Note :

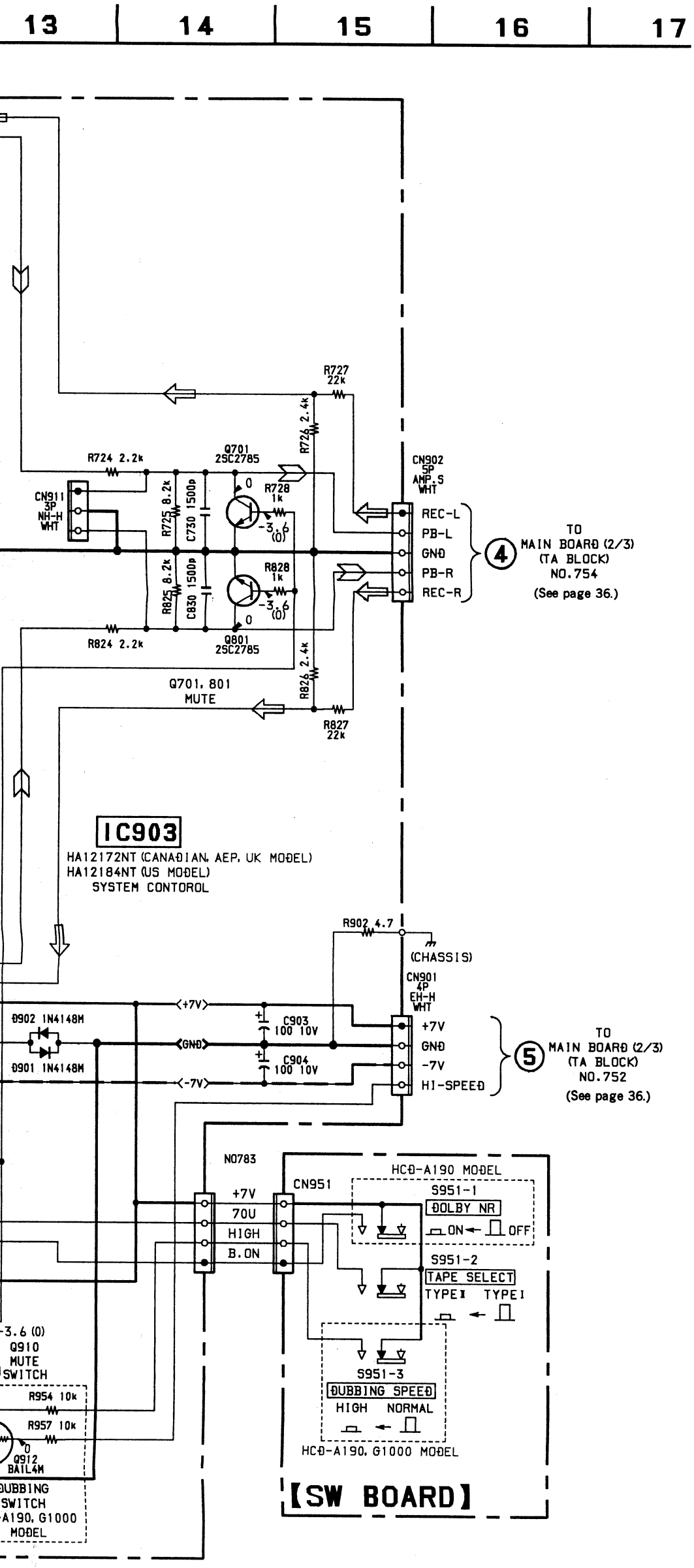
• ○— : parts extracted from the component side.



5-11. SCHEMATIC DIAGRAM—DECK SECTION— • Refer to page 54 for IC Block Diagrams.




IC903
HA12172NT (CANADIAN, AEP, UK MODEL)
HA12184NT (US MODEL)
SYSTEM CONTOROL
IC907
SWITCH
【SW BOARD】
RECORD LEVEL (L)
RECORD LEVEL (R)
0.01 (US MODEL)
0.1 (CANADIAN, AEP, UK MODEL)
18K 5% (US MODEL)
18K 1% (CANADIAN, AEP, UK MODEL)
REC-EQ
BIAS-SW
LPF
DET
Q701 2SC2785
Q801 2SC2785
Q701, 801 MUTE
CN902 5P AMP.S WHT
REC-L
PB-L
GND
PB-R
REC-R
TO MAIN BOARD (2/3) (TA BLOCK) NO.754
(See page 36.)
CN901 4P EH-H WHT
+7V
GND
-7V
HI-SPEED
TO MAIN BOARD (2/3) (TA BLOCK) NO.752
(See page 36.)
CN911 3P NH-H WHT
D902 1N4148M
D901 1N4148M
R902 4.7
(CHASSIS)
NO783
HCD-A190 MODEL
CN951
S951-1
DOLBY NR
ON
OFF
S951-2
TAPE SELECT
TYPEⅡ
TYPEⅠ
S951-3
DUBBING SPEED
HIGH
NORMAL
HCD-A190, G1000 MODEL
Q908 BA1L4M SWITCH
Q909 BA1L4M REC SWITCH
Q910 BN1L4M MUTE SWITCH
Q911 BN1L4M SWITCH
Q912 BA1L4M DUBBING SWITCH HCD-A190, G1000 MODEL
CN913 2P EH-H WHT
IC907 (2/4) MC14081BCP
IC907 (3/4) MC14081BCP
IC907 (4/4) MC14081BCP
A=H/B=L
H.DUB=H
RM.OFF=H
REC=H/PB=L/DUB=L
APLAY=H
BPLAY=H
REC=H
HIGH.SPEED=H
HIGH.SPEED.DUB=L



Note :

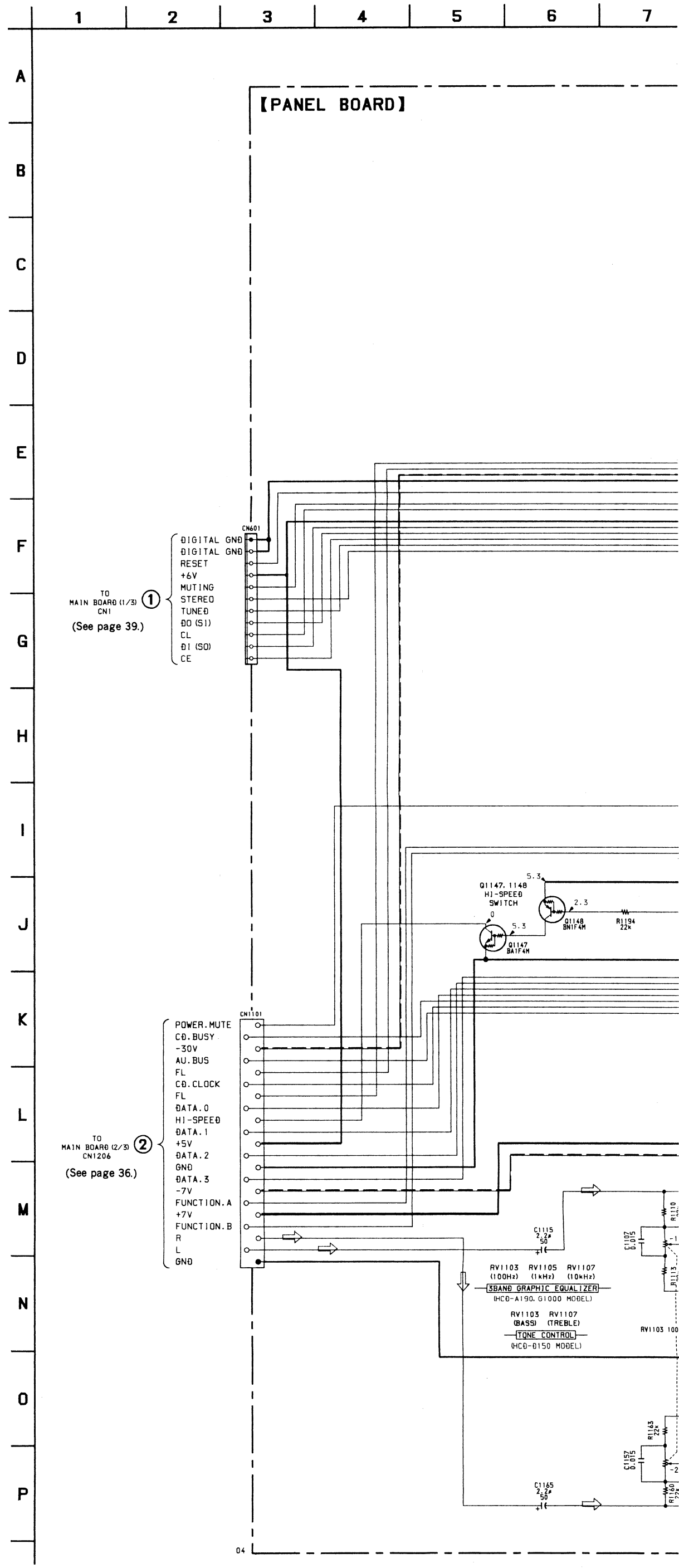
- All capacitors are in μF unless otherwise noted. pF : $\mu\mu$F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	**Note :** Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

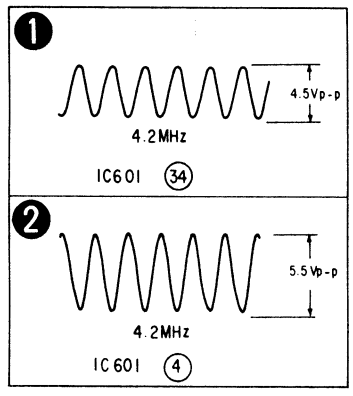
- : nonflammable resistor.
- : B+ Line
- : B− Line
- : adjustment for repair.
- Voltage is dc with respect to ground under no-signal conditions.
- no mark: PB
  ( ): REC
  A : DECK A
  B : DECK B
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  : FM
  : PB (DECK A)
  : PB (DECK B)
  : REC (DECK B)

5-12. SCHEMATIC DIAGRAM—PANEL SECTION—

• Refer to page 54 for IC Block Diagrams.



• Waveforms



Note :

- All capacitors are in μF unless otherwise noted. pF : $\mu\mu$F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▬▬ : B+ Line
- ▬ ▬ : B− Line
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark: FM
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM

ns.

7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19

IC601
μP078042GF-053-3B9
SYSTEM CONTROL
/FL DRIVE

FL601
FLUORESCENT INDICATOR TUBE

IC602
REMOTE SENSOR

IC1103
MOTOR
DRIVE

IC1102
GEQ AMP

IC1101
BUFFER

Q601
RESET

Q602
AU BUS OUT

Q1141
MUTE
SWITCH

Q1102
MUTE

Q1152
MUTE

D1131 — 1134
SEL5220S

D1145
SEL5220S
(VOLUME)

RV1102
SURROUND

RV1109
100K/100K
VOLUME

RV1103 100k/100k

RV1105 100k/100k
(HCD-A190, G1000 MODEL)

RV1107 100k/100k

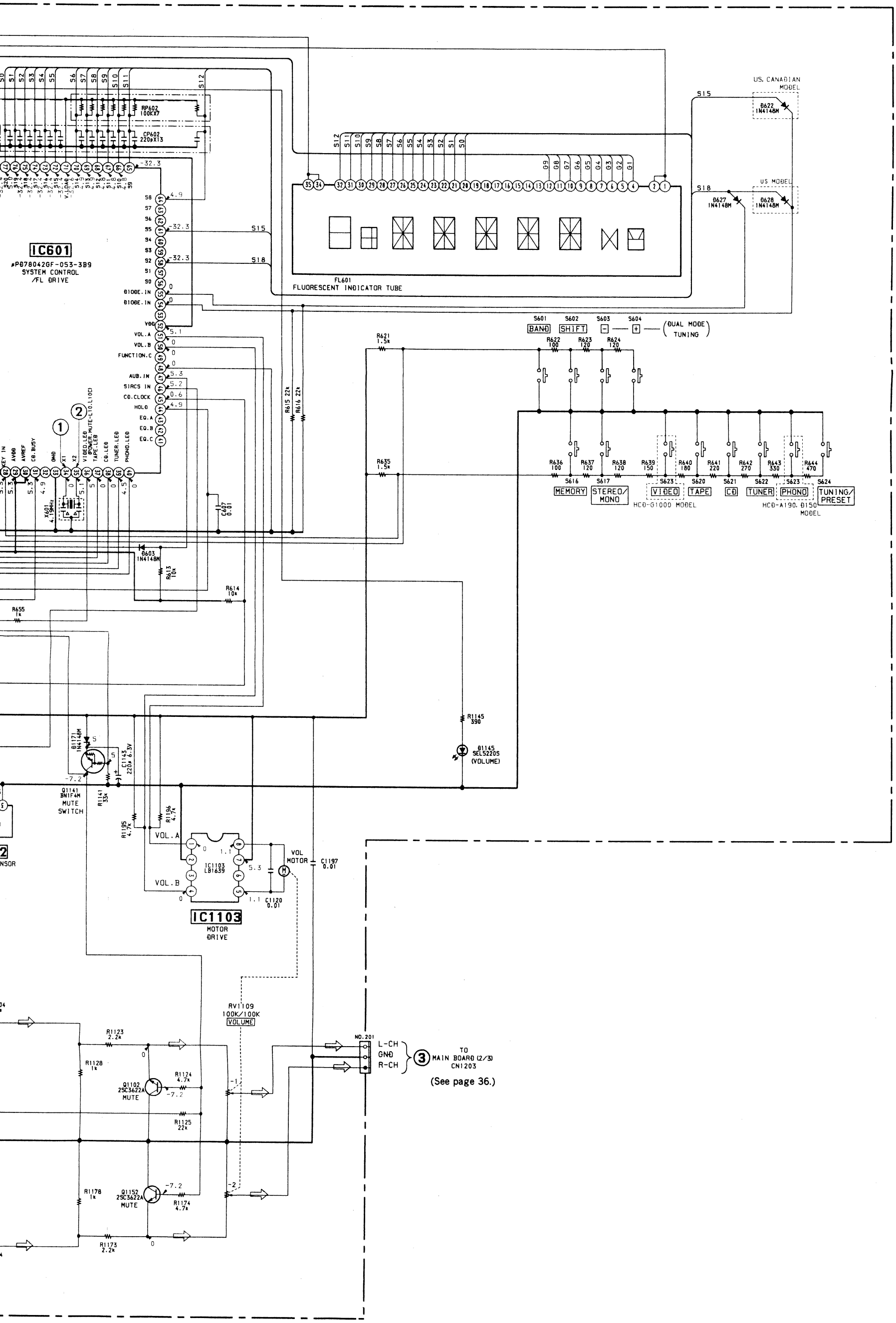
HCD-D150 MODEL

(TAPE) (CD) (TUNER) (PHONO)
(HCD-A190, D150 MODEL)
(VIDEO)
(HCD-G1000 MODEL)

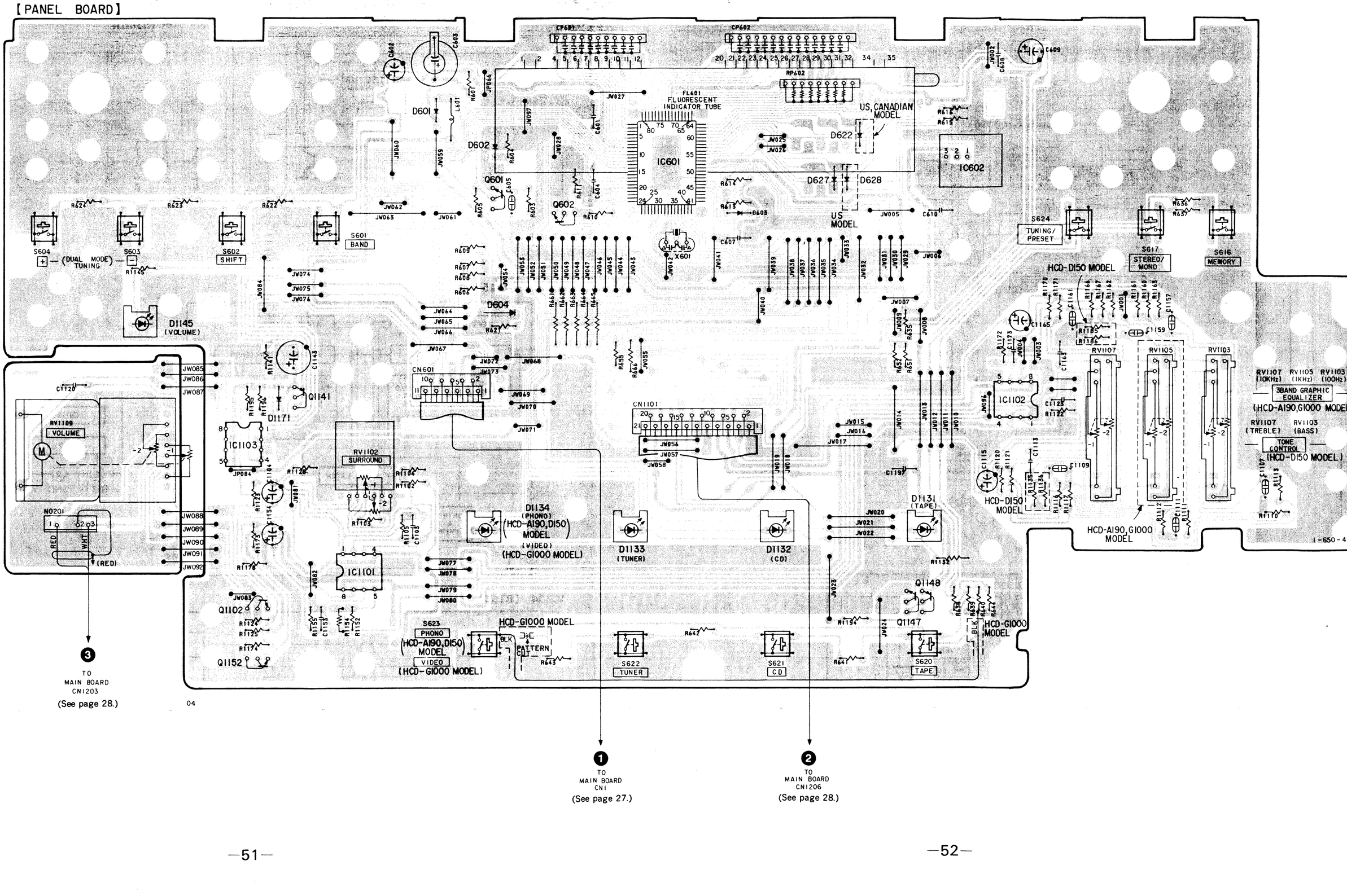
L-CH
GND
R-CH

TO
③ MAIN BOARD (2/3)
CN1203

(See page 36.)


IC601
#P8078042GF-053-3B9
SYSTEM CONTROL
/FL DRIVE
FL601
FLUORESCENT INDICATOR TUBE
US, CANADIAN MODEL
D622 1N4148M
US MODEL
D627 1N4148M
D628 1N4148M
S601 BAND
S602 SHIFT
S603 -
S604 +
(DUAL MODE TUNING)
S616 MEMORY
S617 STEREO/MONO
S623 VIDEO
S620 TAPE
S621 CD
S622 TUNER
S623 PHONO
S624 TUNING/PRESET
HCD-G1000 MODEL
HCD-A190, D150 MODEL
IC1103
MOTOR DRIVE
Q1141 BN1F4M MUTE SWITCH
Q1102 2SC3622A MUTE
Q1152 2SC3622A MUTE
D1145 SEL5220S (VOLUME)
RV1109 100K/100K VOLUME
NO.201
L-CH
GND
R-CH
TO MAIN BOARD (2/3) CN1203
(See page 36.)

【PANEL BOARD】



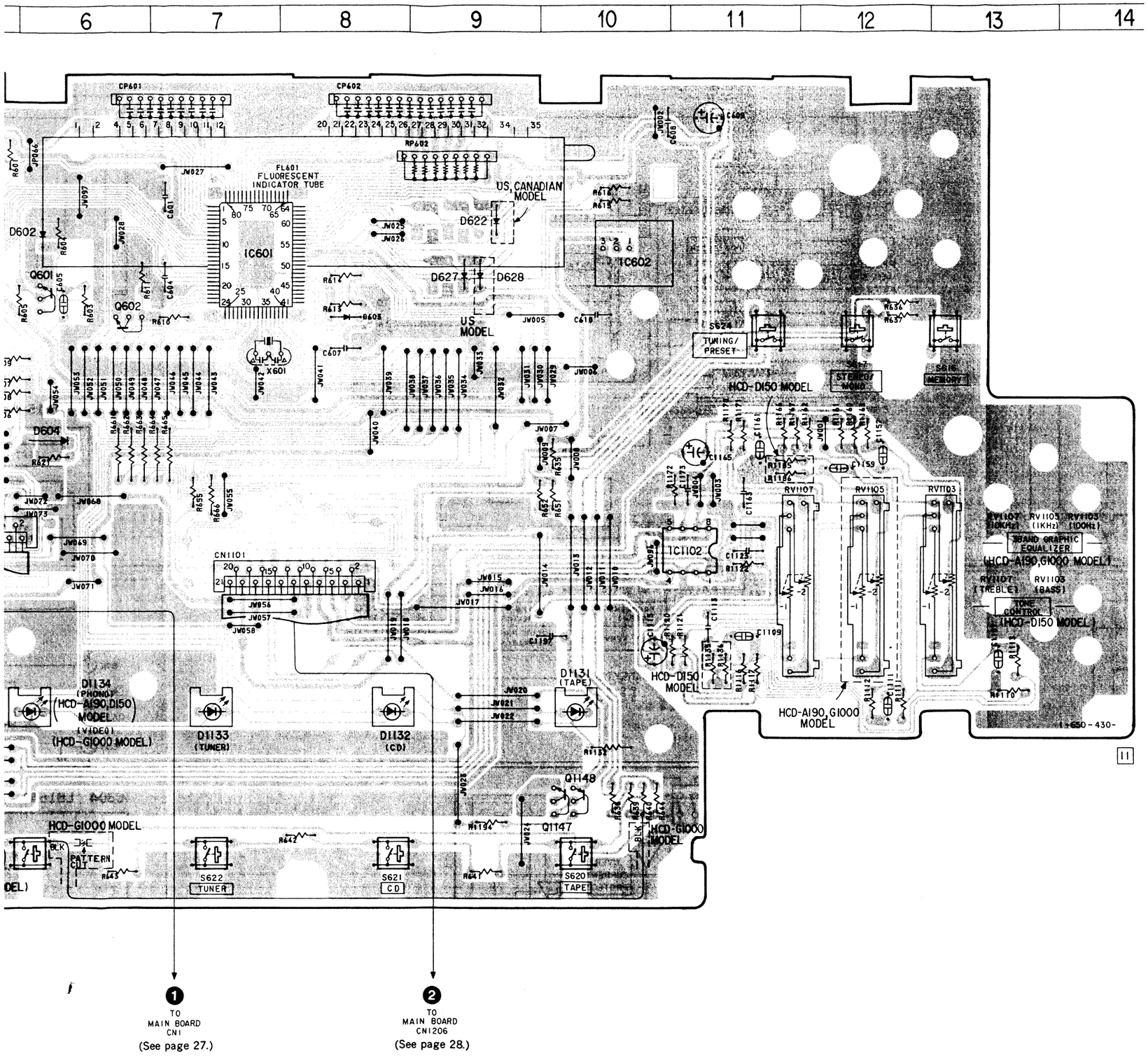
3 TO MAIN BOARD CN1203 (See page 28.)

1 TO MAIN BOARD CN1 (See page 27.)

2 TO MAIN BOARD CN1206 (See page 28.)

04

ad Layouts.



● **Semiconductor Location**

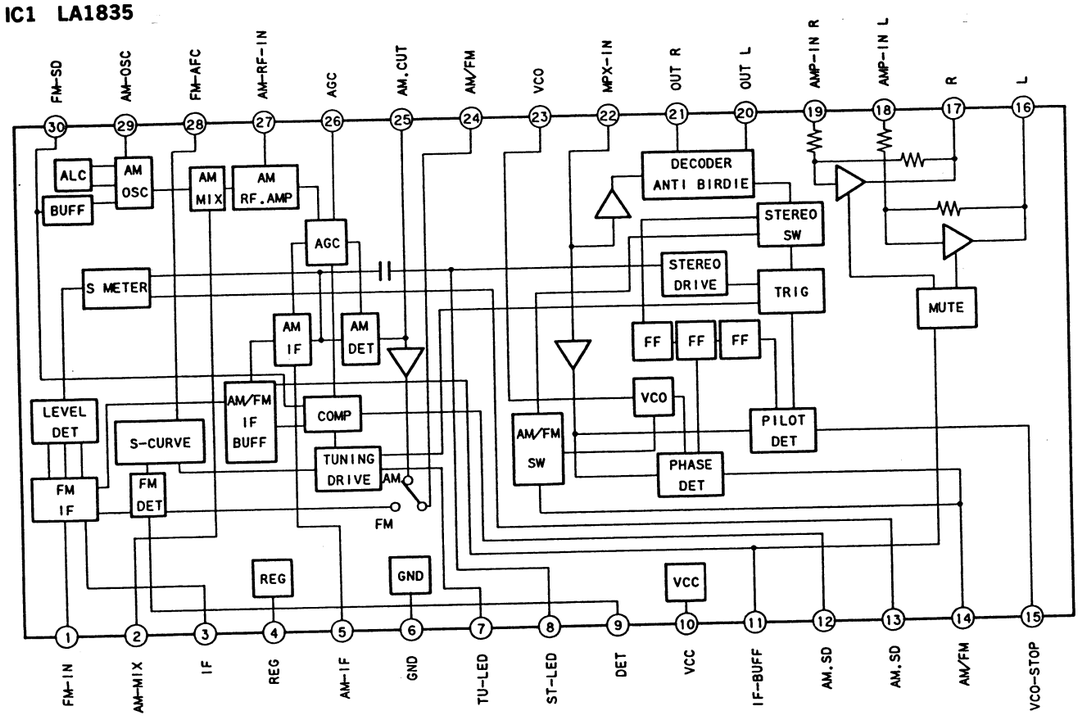
Ref. No.	Location
D601	B-5
D602	B-6
D603	C-8
D604	D-6
D622	B-9
D627	B-9
D628	B-9
D1131	F-10
D1132	F-8
D1133	F-7
D1134	F-6
D1145	D-2
D1171	D-4
IC601	B-7
IC602	B-10
IC1101	F-4
IC1102	D-11
IC1103	E-3
Q601	B-6
Q602	C-6
Q1102	F-3
Q1141	D-4
Q1147	F-10
Q1148	F-10
Q1152	G-3

Note :

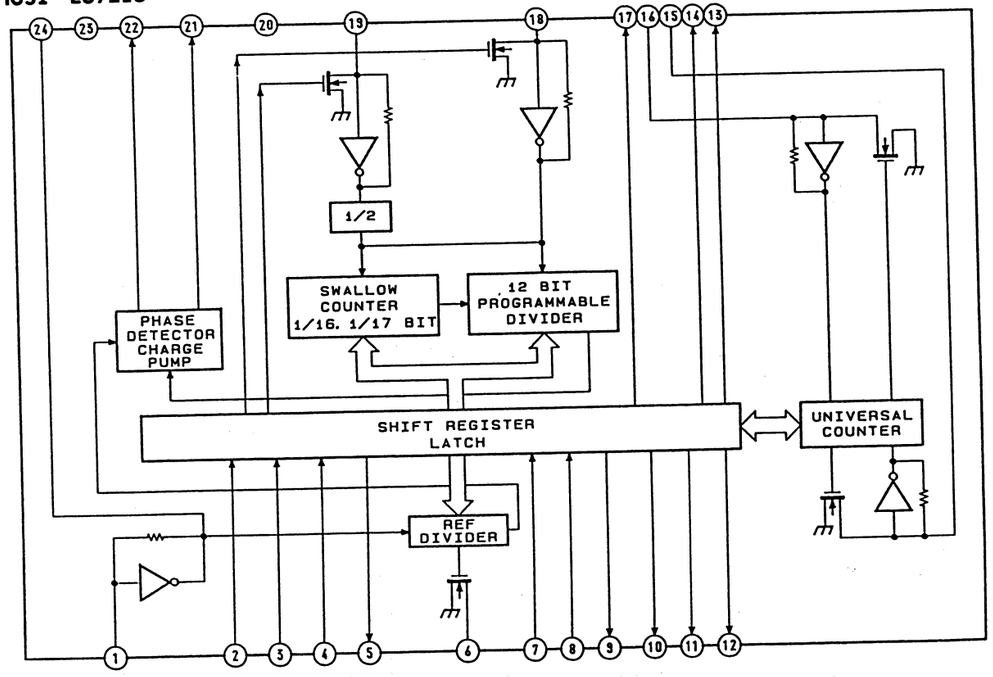
● ○— : parts extracted from the component side.

• IC Block Diagrams

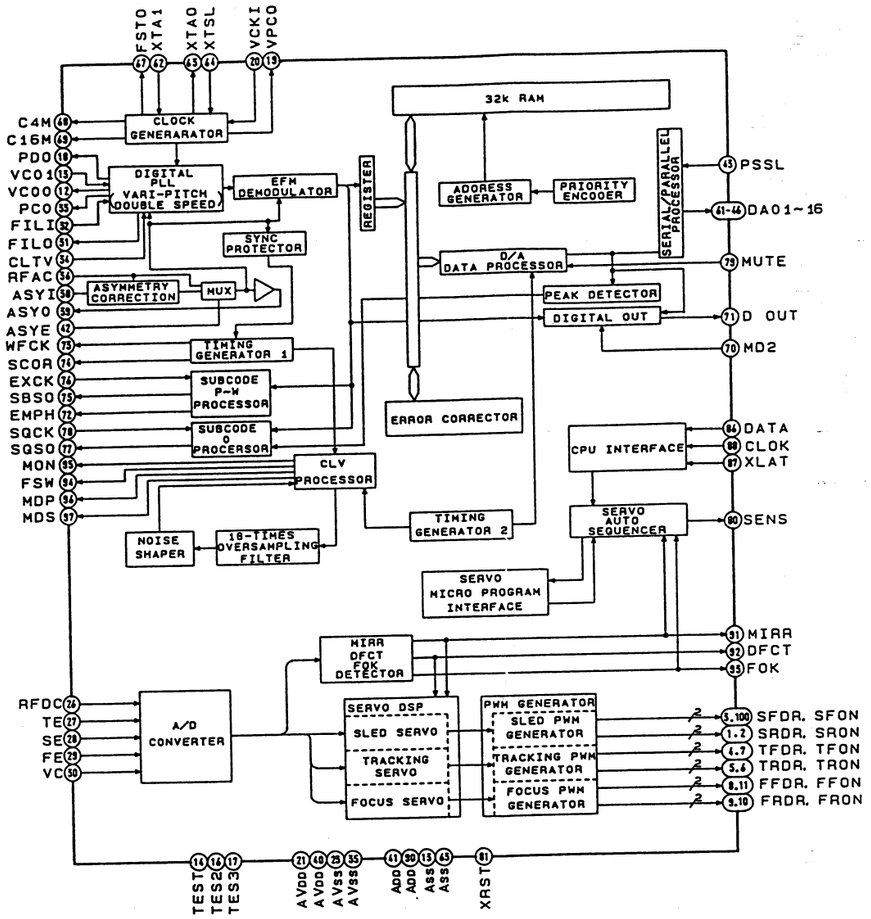
IC1 LA1835



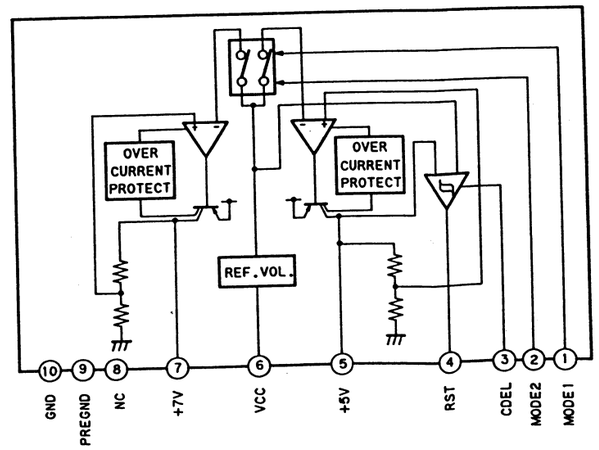
IC51 LC7218



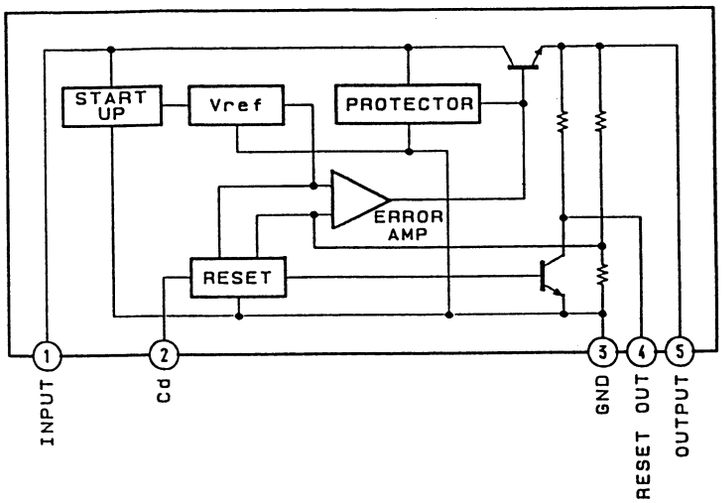
IC101 CXD2515Q



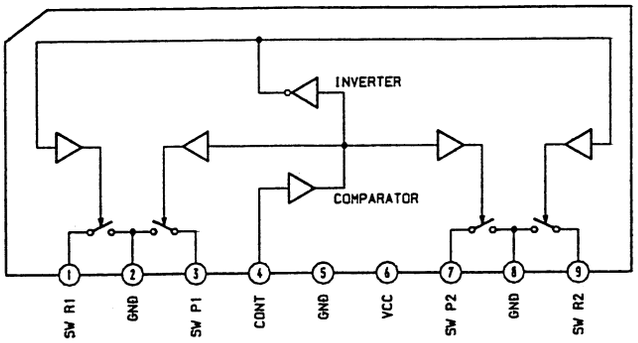
IC301 BA3962



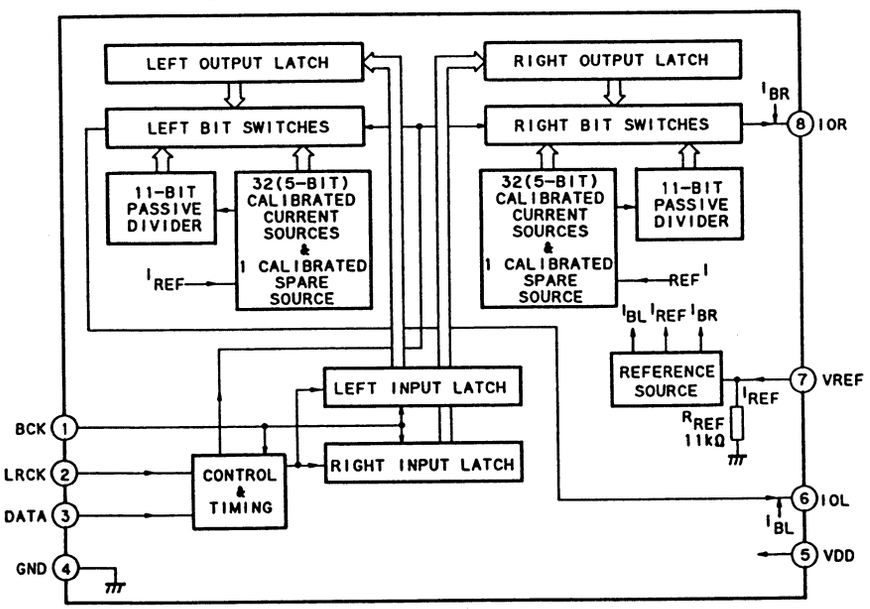
IC302 L78LR05
IC1305 L78MR06



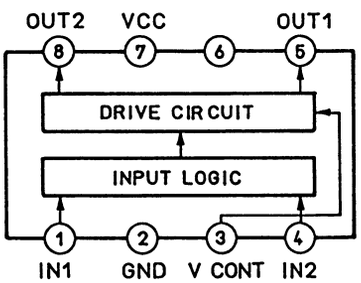
IC906 μPC1330HA



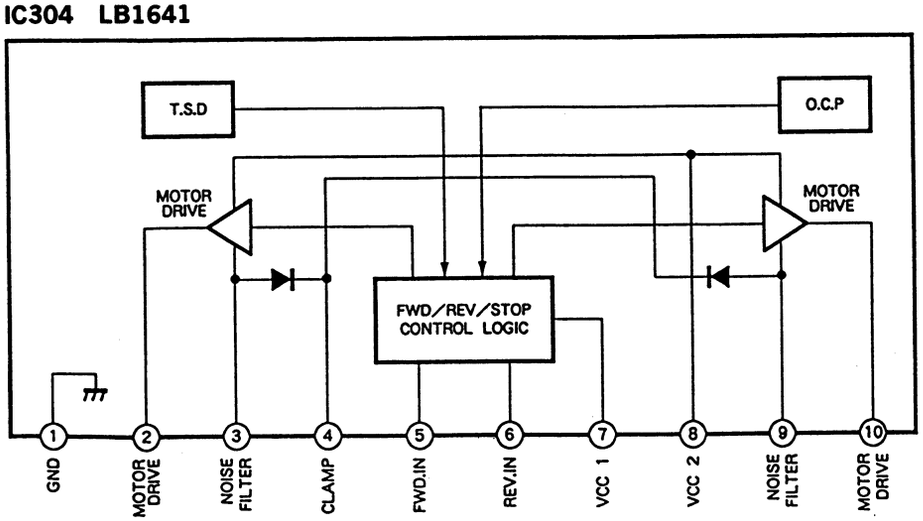
IC307 TDA1545Q



IC1103 LB1639



IC304 LB1641



5-14. PIN DESCRIPTIONS

• IC303 TMP87CH46N-4067

Pin No.	Pin Name	I/O	Pin Description
1	DATA	O	Command data to CXD2515Q.
2	CLK	O	Command clock to CXD2515Q.
3	PLAY	O	LED of PLAY.
4	SUBQ	I	To Q code output of CXD2515Q.
5	SQCLK	O	Clock of on read Q code.
6	PRGL		Not used.
7	XLT	O	For CXD2515Q latch.
8	SCOR	I	Large frame syncronization signal. 75Hz.
9	PAUSE	O	LED of PAUSE.
10	ICSW	O	CD power supply control pin. OFF : L, ON : H.
11	AMUTE	O	Mute. To CXD2515Q.
12	SCLK	O	Servo mode for read clock.
13	LDON	O	Laser diode ON/OFF.
14			Not used.
15			Not used.
16	SENSE	I	SENSE of CXD2515Q.
17	TEST	I	Connect to GND.
18	RESET	I	Reset pin of microcomputer.
19	X1	I	Oscillator connecting input pin. 8MHz.
20	X2	O	Oscillator connecting output pin. 8MHz.
21	GND	—	GND
22	VAREF	I	Reference voltage of A/D change.
23	KEYIN0	I	A/D key input
24	KEYIN1	I	A/D key input
25	KEYIN2	I	A/D key input
26	DPCLK	O	Display clock
27	DPDAT0	O	Display data
28	DPDAT1	O	Display data
29	DPDAT2	O	Display data
30	DPDAT3	O	Display data
31	EMPH	O	Emphasis control
32	KEYREQ	I	Key request
33	AUBIN	I	AU BUS input pin
34	AUBOUT	O	AU BUS output pin
35	LODOUT	O	Tray out
36	LODIN	O	Tray in
37	OUTSW	I	Tray out switch
38	INSW	I	Tray in switch
39	A-FUNC	I	Auto function ON/OFF select
40	ADJ	I	CD test mode pin (ADJ). Normally, 5V pull up.
41	AFADJ	I	CD test mode pin (AFADJ). Normally, 5V pull up.
42	+5V	—	+5V power supply pin

• **IC601** **μPD78042GF-053-3B9**

Pin No.	Pin Name	I/O	Pin Description
1	7G	O	FL tube digit output
2	6G	O	FL tube digit output
3	5G	O	FL tube digit output
4	4G	O	FL tube digit output
5	3G	O	FL tube digit output
6	2G	O	FL tube digit output
7	1G	O	FL tube digit output
8	VDD		Microcomputer power (5V)
9	CL	O	Serial clock output to LC7218 (PLL IC).
10	SO/IF COUNT NG	O	Serial data output to LC7218 (PLL IC).
11	SI	I	Serial data input from LC7218 (PLL IC).
12	CE/TIMER CLOCK	I	Chip enable input from LC7218 (PLL IC).
13	TUNED IN	I	Modulation signal from tuner block. (L···Field)
14	STEREO IN	I	Stereo signal from tuner block. (L···FM STEREO received)
15	MUTING	O	Audio mute (L : Mute)
16	AUX. OUT		Not used.
17	RESET	—	Microcomputer reset pin
18	FUNCTION A	O	Function control
19	FUNCTION B	O	Function control
20	AVSS	—	A/D GND for key input.
21	DISPLAY. DATA. 3	I	CD display data bit 3
22	DISPLAY. DATA. 2	I	CD display data bit 2
23	DISPLAY. DATA. 1	I	CD display data bit 1
24	DISPLAY. DATA. 0	I	CD display data bit 0
25	AUB. OUT	O	AU BUS output
26	RELAY	—	Not used.
27	KEY IN1	I	Key input (A/D change line 1)
28	KEY IN0	I	Key input (A/D change line 0)
29	AVDD	—	A/D power for key input (5V)
30	AVREF	—	A/D reference voltage (5V)
31	CD. BUSY	I	At H, CD is Active. (At H, tuner is fundamentally not operated.)
32	—	—	Not used.
33	GND	—	Microcomputer GND
34	X1	—	Crystal connection pin for Main•clock oscillator.
35	X2	—	Crystal connection pin for Main•clock oscillator.
36	POWER. MUTE	O	Power mute (L : Mute)
37	TAPE. LED	O	Tape function LED
38	CD. LED	O	CD function LED
39	TUNER. LED	O	Tuner function LED
40	PHONO. LED	O	Phono function LED
41	EQ. C	—	Not used.
42	EQ. B		Not used.
43	EQ. A	—	Not used.
44	HOLD	I	Power cut detection pin (Normally : H, AC no connect : L)

Pin No.	Pin Name	I/O	Pin Description
45	CD. CLOCK	I	CD display data clock
46	SIRCS IN	I	SIRCS input
47	AUB. IN	I	AU BUS input
48	—	—	Connect to GND.
49	FUNCTION. C	—	Not used.
50	VOL. B	O	Volume control (VOL DOWN)
51	VOL. A	O	Volume control (VOL UP)
52	VDD	—	Microcomputer power (5V)
53	—	—	Not used.
54	DIODE. IN2	I	Distination•model discrimination input * 1
55	DIODE. IN1	I	Distination•model discrimination input * 1
56	S0	—	Not used.
57	S1	—	Not used.
58	S2	O	Distination•model discrimination output * 1
59	S3	—	Not used.
60	S4	—	Not used.
61	S5	O	Distination•model discrimination output * 1
62	S6	—	Not used.
63	S7	—	Not used.
64	S8	O	FL tube segment output
65	S9	O	FL tube segment output
66	S10	O	FL tube segment output
67	S11	O	FL tube segment output
68	S12	O	FL tube segment output
69	S13	O	FL tube segment output
70	S14	O	FL tube segment output
71	V. LOAD	—	Minus voltage for FL tube.
72	S15	O	FL tube segment output
73	S16	O	FL tube segment output
74	S17	O	FL tube segment output
75	S18	O	FL tube segment output
76	S19	O	FL tube segment output
77	S20	O	FL tube segment output
78	VOL. LED	O	Volume LED output
79	9G	O	FL tube digit output
80	8G	O	FL tube digit output

* 1

[DIODE MATRIX] (Pin No. is IC601's pin No.)

Output / Input	Pin(61)	Pin(60)	Pin(59)	Pin(58)	Pin(57)
Pin(55)	∨	×	×	○	×
Pin(54)	A	×	×	B	×

× : Not use for diode.
○ : Use for diode.

〔DISTINATION SELECT〕

	US	Canadian	AEP, UK
A	○	○	×
B	○	×	×

SECTION 6
EXPLODED VIEWS

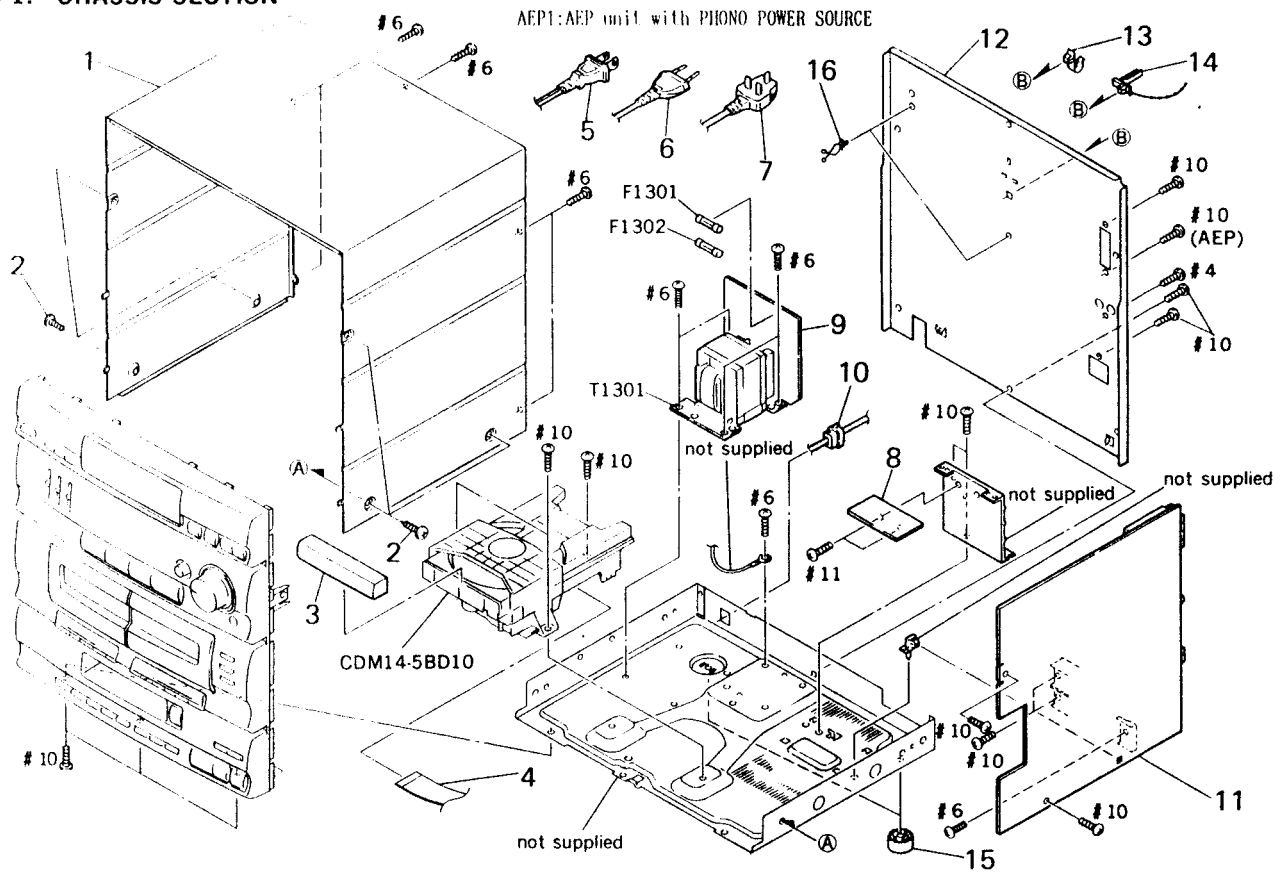
NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE)... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Hardware (# mark) list and acces-sories and packing materials are given in the last of this parts list.
- Abbreviation
  AEP1:AEP unit with PHONO POWER SOURCE

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

6-1. CHASSIS SECTION

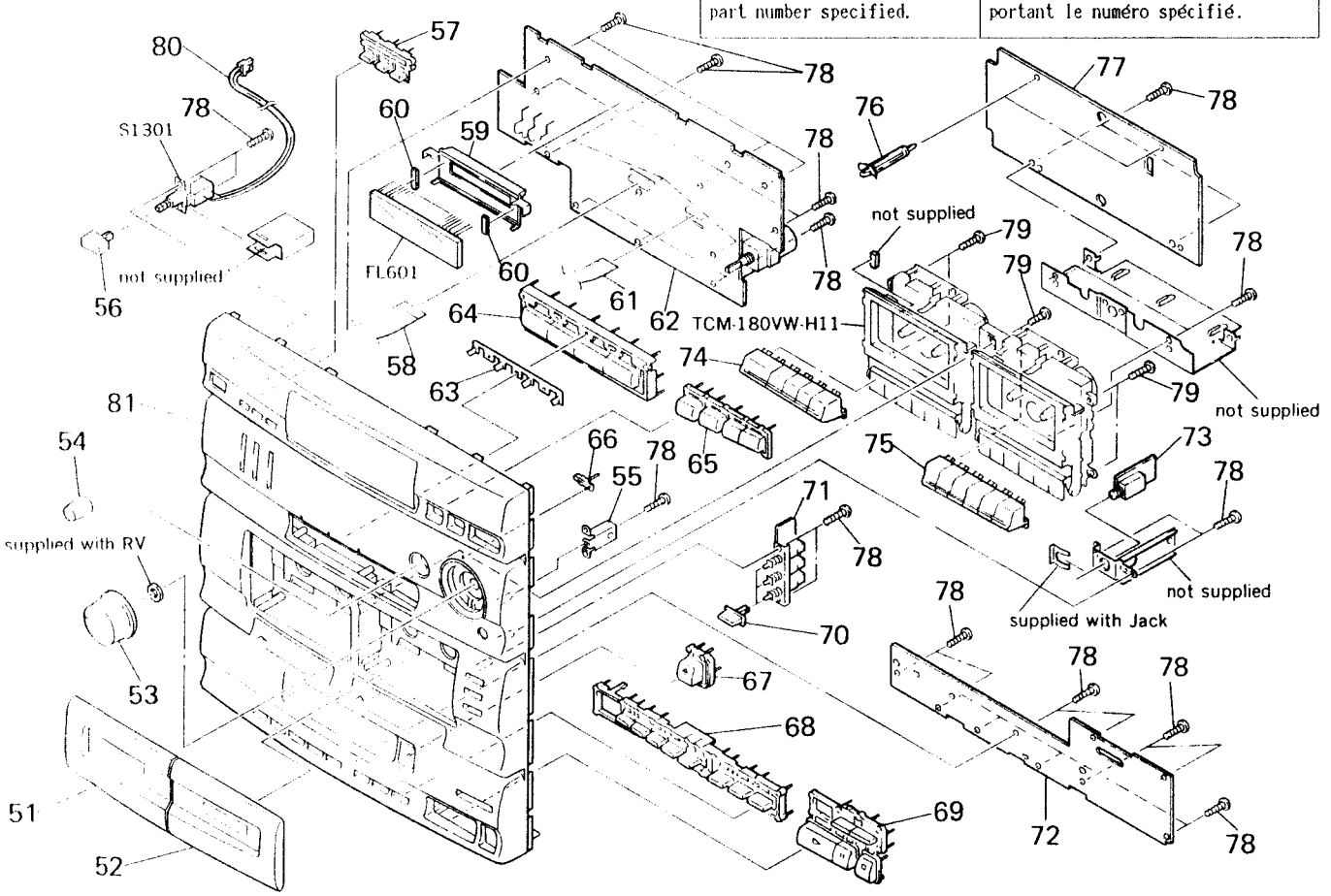


Ref. No.	Part No.	Description	Remark
* 1	4-943-170-32	CASE (HCD-G1000)	
* 1	4-943-170-72	CASE (HCD-A190/D150)	
2	3-363-099-01	SCREW (CASE 3 TP2)	
3	4-962-674-01	PANEL, LOADING	
4	1-575-664-31	WIRE, FLAT TYPE (23 CORE)	
⚠5	1-690-609-11	CORD, POWER (US, Canadian)	
⚠6	1-575-651-11	CORD, POWER (AEP)	
⚠7	1-696-570-21	CORD, POWER (UK)	
* 8	1-650-429-11	POWER AMPLIFIER BOARD	
* 9	1-650-598-11	POWER BOARD	
* 10	3-703-244-00	BUSHING (2104), CORD	
* 11	A-4365-784-A	MAIN BOARD, COMPLETE (HCD-G1000)	
* 11	A-4365-791-A	MAIN BOARD, COMPLETE (UK)	
* 11	A-4365-803-A	MAIN BOARD, COMPLETE (Canadian, HCD-D150)	
* 11	A-4369-283-A	MAIN BOARD, COMPLETE (AEP)	
* 11	A-4369-579-A	MAIN BOARD, COMPLETE (AEP1)	

Ref. No.	Part No.	Description	Remark
* 12	4-962-736-01	PANEL, BACK (UK)	
* 12	4-962-736-11	PANEL, BACK (HCD-D150)	
* 12	4-962-736-21	PANEL, BACK (Canadian)	
* 12	4-962-736-31	PANEL, BACK (HCD-G1000)	
* 12	4-962-736-41	PANEL, BACK (AEP)	
* 12	4-962-736-61	PANEL, BACK (AEP1)	
* 13	4-949-235-01	HOOK (US, Canadian, AEP)	
* 14	4-956-370-02	BAND, PLUG FIXED (UK)	
15	X-4941-228-1	FOOT ASSY	
* 16	4-953-346-21	CLAMP, LEAD	
⚠F1301	1-532-350-00	FUSE (4A/125V) (AEP, UK)	
⚠F1301	1-576-108-11	FUSE (4A/125V) (US, Canadian)	
⚠F1302	1-532-350-00	FUSE (4A/125V) (AEP, UK)	
⚠F1302	1-576-108-11	FUSE (4A/125V) (US, Canadian)	
⚠T1301	1-423-912-11	TRANSFORMER, POWER (US)	
⚠T1301	1-423-913-11	TRANSFORMER, POWER (AEP, UK)	
⚠T1301	1-423-943-11	TRANSFORMER, POWER (Canadian)	

6-2. FRONT PANEL SECTION

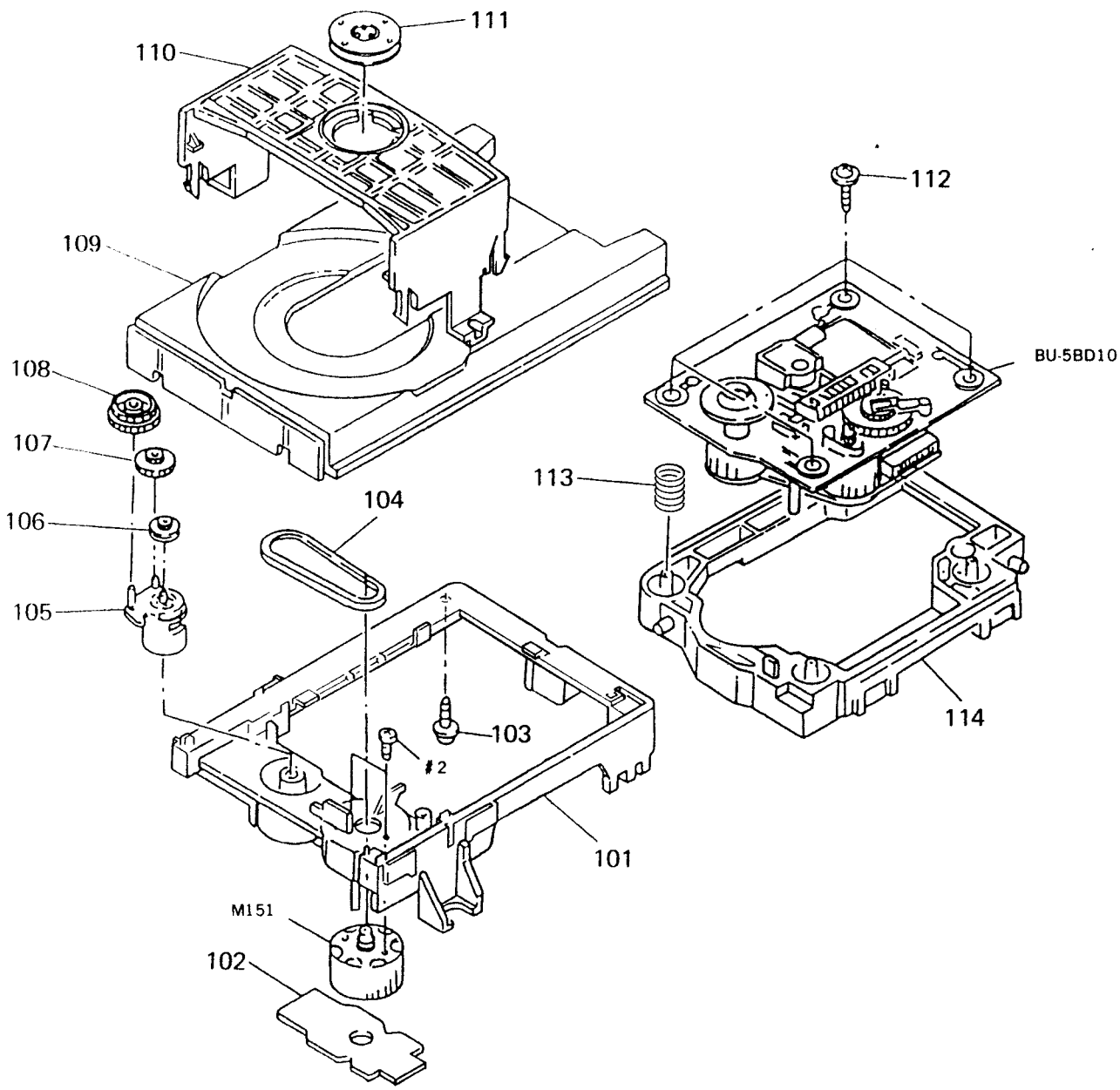
The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



Ref. No.	Part No.	Description	Remark
51	X-4944-276-1	LID (A) ASSY, CASSETTE (HCD-A190/D150)	
51	X-4944-323-1	LID (A) ASSY, CASSETTE (HCD-G1000)	
52	X-4944-277-1	LID (B) ASSY, CASSETTE (HCD-A190/D150)	
52	X-4944-324-1	LID (B) ASSY, CASSETTE (HCD-G1000)	
53	4-955-635-01	KNOB (V)	
54	4-962-703-02	KNOB (SUB)	
55	4-962-712-01	BRACKET (CASE)	
56	4-930-783-31	BUTTON (PO)	
57	4-962-660-01	BUTTON (MEMORY)	
58	1-751-746-11	WIRE (FLAT TYPE) (21 CORE)	
* 59	4-942-301-01	HOLDER, FL TUBE	
* 60	4-949-935-21	CUSHION (FL)	
61	1-590-575-11	WIRE, FLAT TYPE (11 CORE)	
* 62	A-4365-740-A	PANEL BOARD, COMPLETE (Canadian)	
* 62	A-4365-774-A	PANEL BOARD, COMPLETE (HCD-G1000)	
* 62	A-4365-789-A	PANEL BOARD, COMPLETE (AEP, UK)	
* 62	A-4365-799-A	PANEL BOARD, COMPLETE (HCD-D150)	
63	4-962-669-01	INDICATOR (FU)	
64	4-962-662-01	BUTTON (FU) (HCD-A190/D150)	
64	4-962-662-11	BUTTON (FU) (HCD-G1000)	
65	4-962-661-01	BUTTON (BAND)	
66	4-962-682-01	INDICATOR (VO)	
67	4-962-665-01	BUTTON (OPEN)	

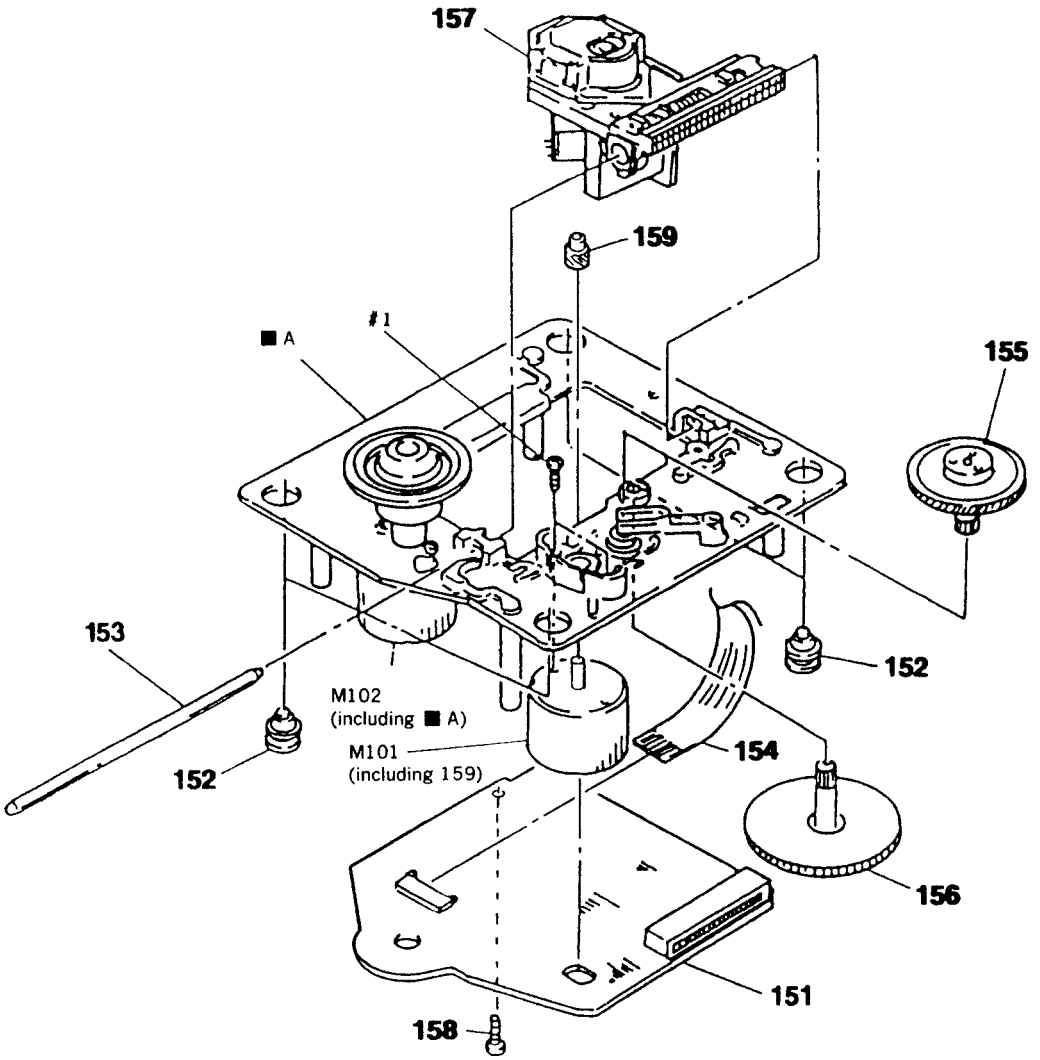
Ref. No.	Part No.	Description	Remark
68	4-962-666-01	BUTTON (PROGRAM)	
69	X-4944-275-1	BUTTON (CD) ASSY	
70	4-962-702-01	BUTTON (DDT) (US)	
70	4-964-288-01	BUTTON (DDT-3) (HCD-A190)	
* 71	1-650-427-11	SW BOARD	
* 72	1-650-431-11	CD PANEL BOARD	
* 73	1-650-432-11	H.P. BOARD	
74	4-962-663-01	BUTTON (MD-A)	
75	4-962-664-01	BUTTON (MD-B)	
* 76	4-924-098-81	HOLDER, PC BOARD	
* 77	A-4365-772-A	MAIN TC BOARD, COMPLETE (HCD-G1000)	
* 77	A-4365-787-A	MAIN TC BOARD, COMPLETE (HCD-A190)	
* 77	A-4365-795-A	MAIN TC BOARD, COMPLETE (HCD-D150)	
78	4-951-620-01	SCREW (2.6X8), +BVTP	
79	4-951-620-11	SCREW (2.6X10), +BVTP	
80	1-690-708-11	CORD (WITH CONNECTOR)	
81	X-4944-875-1	PANEL ASSY, FRONT (HCD-G1000)	
81	X-4944-876-1	PANEL ASSY, FRONT (HCD-D150)	
81	X-4944-877-1	PANEL ASSY, FRONT (UK)	
81	X-4944-878-1	PANEL ASSY, FRONT (Canadian, AEP)	
FL601	1-517-258-11	INDICATOR TUBE, FLUORESCENT	
⚠S1301	1-572-267-61	SWITCH, PUSH (AC POWER) (1 KEY) (POWER)	

6-3. CD MECHANISM SECTION (CDM14-5BD10)



Ref. No.	Part No.	Description	Remark
101	4-933-111-01	CHASSIS (MD)	
* 102	1-645-721-21	LOADING BOARD	
* 103	4-917-583-21	BRACKET, YOKE	
104	4-927-649-01	BELT	
105	4-933-109-01	CAM	
106	4-927-651-01	PULLEY (S)	
107	4-927-628-01	GEAR (C)	
108	4-933-107-01	GEAR (PL)	
109	4-933-112-01	TABLE, DISC	
110	4-933-110-01	HOLDER (MG)	
* 111	1-452-538-11	MAGNET	
112	4-933-134-01	SCREW (+PTPWH M2.6X6)	
113	4-959-996-01	SPRING (932), COMPRESSION	
114	4-933-129-01	HOLDER (BU)	
M151	A-4604-363-A	MOTOR (L) ASSY	

6-4. OPTICAL PICK-UP BLOCK (BU-5BD10)

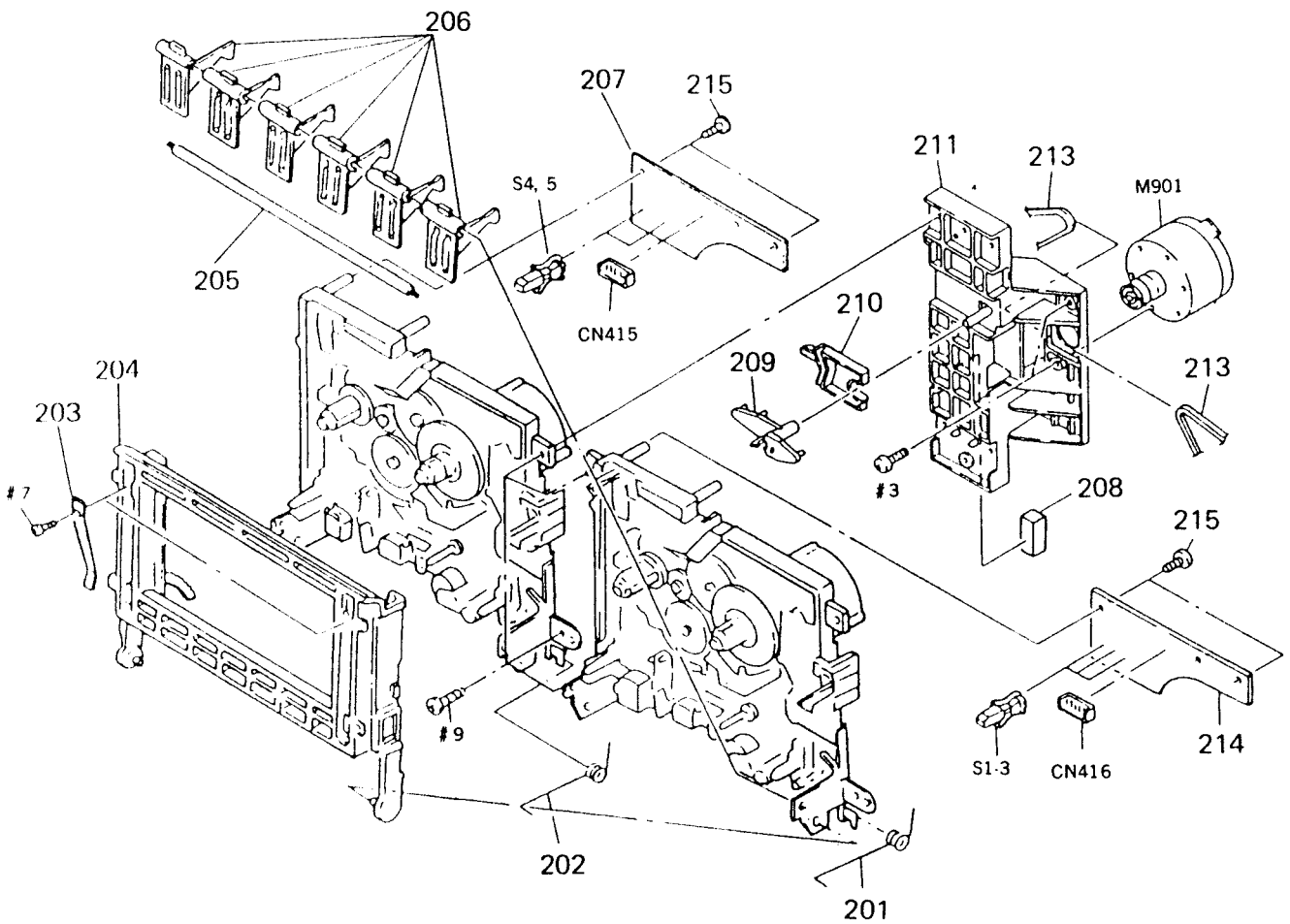


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Ref. No.	Part No.	Description	Remark
* 151	A-4649-946-A	BD BOARD, COMPLETE	
152	4-951-940-01	INSULATOR (BU)	
153	4-917-565-01	SHAFT, SLED	
154	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
155	4-917-567-01	GEAR (M)	
156	4-917-564-01	GEAR (P), FLATNESS	

Ref. No.	Part No.	Description	Remark
⚠157	8-848-144-11	DEVICE, OPTICAL KSS-240A	
158	4-951-620-01	SCREW (2.6X8), +BVTP	
159	4-917-566-01	GEAR (S)	
M101	X-4917-504-1	MOTOR ASSY (SLED)	
M102	X-4917-523-3	MOTOR ASSY (SPINDLE)	

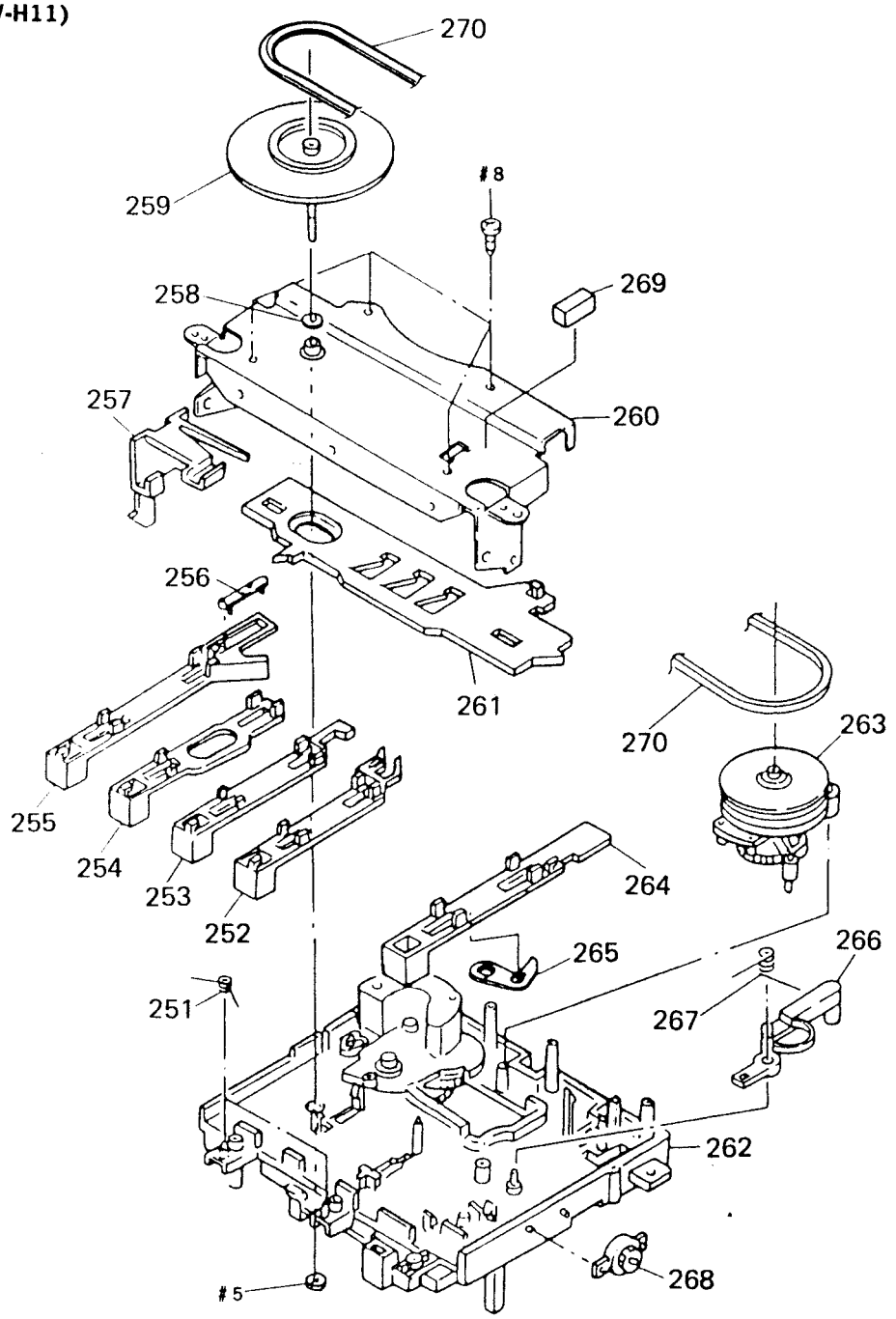
6-5. MECHANISM DECK SECTION 1 (TCM-180VW-H11)



Ref. No.	Part No.	Description	Remark
201	3-358-287-01	SPRING (LOADING A), TORSION	
202	3-358-229-01	SPRING (LOADING), TORSION	
203	3-358-209-01	SPRING (CASSETTE HOLDER), LEAF	
204	3-358-266-02	HOLDER, CASSETTE	
205	3-371-917-01	SHAFT (BUTTON SHAFT 4)	
206	3-369-335-01	LEVER (BUTTON BASE F)	
* 207	1-640-702-11	LEAF SW (A) BOARD	
* 208	3-358-289-01	SPACER (VIBRATION PROOF MAT)	
209	3-358-203-01	LEVER (TRIGGER)	
210	3-358-202-01	SLIDER (TRIGGER)	
* 211	3-363-930-01	BRACKET (JOINT BASE)	

Ref. No.	Part No.	Description	Remark
213	3-364-777-01	BELT (WH)	
* 214	1-640-703-11	LEAF SW (B) BOARD	
215	4-951-620-01	SCREW (2.6X8), +BVTP	
* CN415	1-568-942-11	PIN, CONNECTOR 4P	
* CN416	1-568-943-11	PIN, CONNECTOR 5P	
M901	X-3362-377-1	MOTOR (WH) ASSY	
S1	1-571-736-11	SWITCH, LEAF (MOTOR)	
S2	1-571-736-11	SWITCH, LEAF (PLAY)	
S3	1-571-736-11	SWITCH, LEAF (REC)	
S4	1-571-736-11	SWITCH, LEAF (MOTOR)	
S5	1-571-736-11	SWITCH, LEAF (PLAY)	

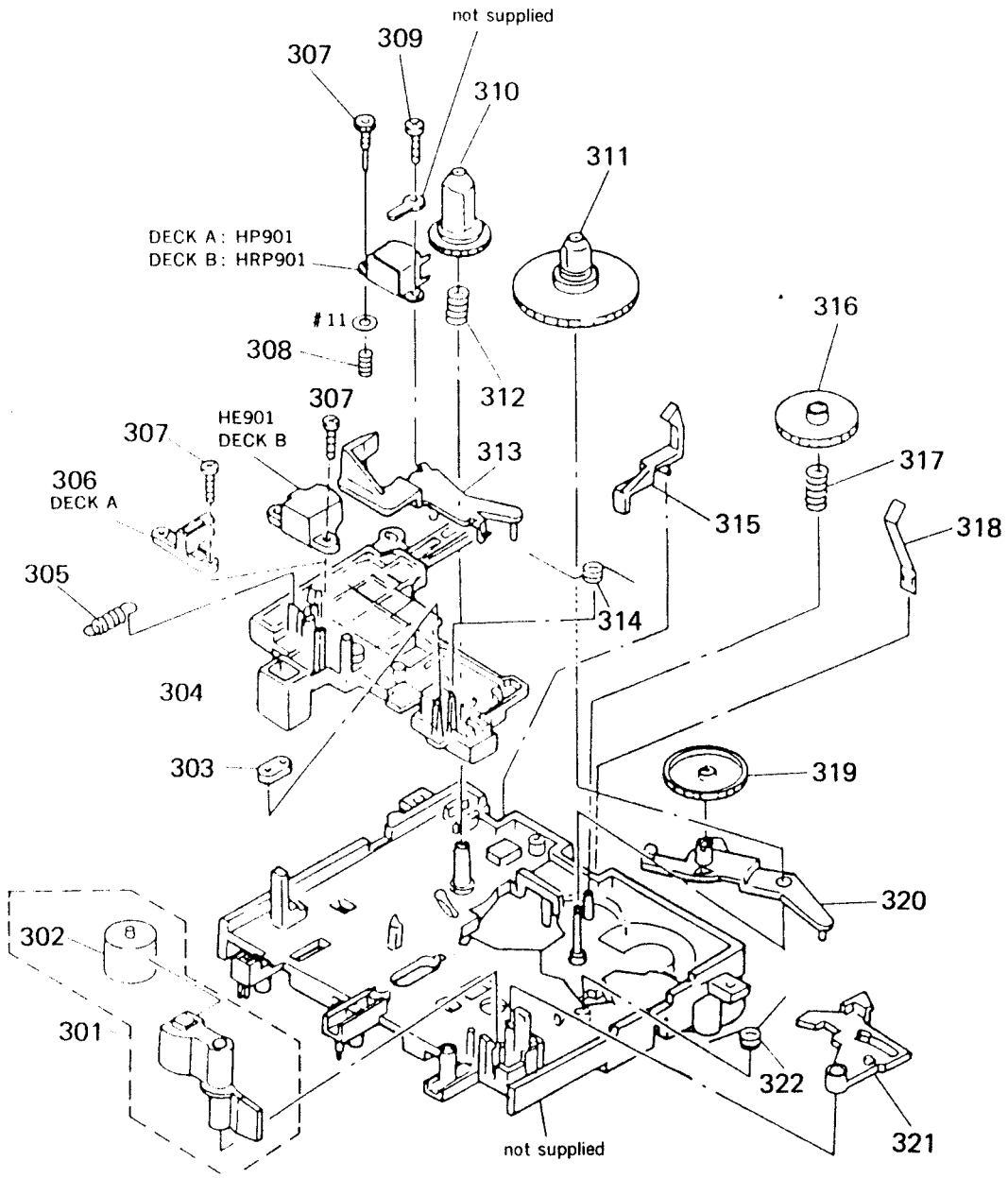
6-6. MECHANISM DECK SECTION 2 (TCM-180VW-H11)



Ref. No.	Part No.	Description	Remark
251	3-358-232-01	SPRING (S-P F-R), TORSION	
252	3-358-258-01	SLIDER (REW)	
253	3-358-257-01	SLIDER (FF)	
254	3-358-256-01	SLIDER (STOP/EJECT)	
255	3-358-260-01	SLIDER (PAUSE)	
* 256	3-358-226-01	LEVER (PAUSE LEVER)	
* 257	3-358-261-02	SLIDER (HOLDER LOCK)	
258	3-701-437-01	WASHER	
259	X-3358-205-1	FLYWHEEL (A) ASSY (DECK B)	
259	X-3366-859-1	FLYWHEEL (D) ASSY (DECK A)	

Ref. No.	Part No.	Description	Remark
* 260	X-3358-208-1	BRACKET (B) ASSY	
* 261	3-358-249-01	SLIDER (LOCK PLATE)	
262	X-3358-207-2	CHASSIS (A) ASSY	
263	X-3358-202-1	LEVER (FR ARM) ASSY	
264	3-358-259-01	SLIDER (REC) (DECK B)	
* 265	3-358-204-01	LEVER (REC SAFETY) (DECK B)	
266	3-358-286-01	LEVER (MOTOR LEVER)	
267	3-358-214-01	SPRING (LOCK), TORSION (DECK A)	
267	3-358-233-01	SPRING (REC-LOCK), TORSION (DECK B)	
268	3-319-224-51	DAMPER, SMALL	
* 269	3-358-289-01	SPACER (VIBRATION PROOF MAT)	
270	3-358-230-01	BELT (A1)	

6-7. MECHANISM DECK SECTION 3 (TCM-180VW-H11)



Ref. No.	Part No.	Description	Remark
301	X-3358-204-1	LEVER (PINCH LEVER) ASSY	
302	3-578-143-11	PINCH ROLLER	
* 303	3-358-215-01	BUSHING (WIRE KIT RETAINER)	
304	3-358-265-01	SLIDER (HEAD PC BOARD A)	
305	3-358-217-01	SPRING, TENSION	
* 306	3-363-931-01	GUIDE, TAPE (DECK A)	
307	3-358-288-11	SCREW (T), AZIMUTH	
308	3-358-234-01	SPRING (AZIMUTH), COMPRESSION	
309	3-358-288-01	SCREW (T), AZIMUTH	
310	3-358-248-01	GEAR (SUPPLY REEL)	
311	X-3358-203-1	TABLE (T) ASSY, REEL	
312	3-358-208-01	SPRING (SUPPLY), COMPRESSION	
* 313	3-358-251-01	LEVER (TENSION DETECTION ARM)	

Ref. No.	Part No.	Description	Remark
314	3-358-228-01	SPRING, TORSION	
* 315	3-358-255-01	LEVER (GB LEVER) (DECK B)	
* 316	3-358-224-01	GEAR (FF GEAR)	
317	3-358-207-01	SPRING (FF GEAR), COMPRESSION	
318	3-358-227-01	SPRING, LEAF	
* 319	3-358-284-01	GEAR (TU GEAR)	
* 320	3-358-252-01	LEVER (TU ARM)	
* 321	3-358-253-01	LEVER (SHUT-OFF LEVER)	
322	3-358-243-01	SPRING (TU-SHUT), TORSION	
HE901	1-543-673-11	HEAD, MAGNETIC (ERASE) (DECK B)	
HP901	1-543-319-11	HEAD, MAGNETIC (REC/PB) (DECK A)	
HRP901	1-543-319-11	HEAD, MAGNETIC (REC/PB) (DECK B)	

SECTION 7
ELECTRICAL PARTS LIST

BD

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal film resistor.
  METAL OXIDE: Metal oxide film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indicating parts by reference number, please include the board.

- Abbreviation
  AEP1:AEP unit with PHONO POWER SOURCE

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Ref. No.	Part No.	Description			Remark
*	A-4649-946-A	BD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-163-005-11	CERAMIC CHIP	470PF	10% 50V	
C102	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C103	1-163-005-11	CERAMIC CHIP	470PF	10% 50V	
C105	1-135-155-21	TANTALUM CHIP	4.7uF	10% 16V	
C106	1-164-346-11	CERAMIC CHIP	1uF	16V	
C107	1-164-505-11	CERAMIC CHIP	2.2uF	16V	
C108	1-163-035-00	CERAMIC CHIP	0.047uF	50V	
C109	1-163-011-11	CERAMIC CHIP	0.0015uF	10% 50V	
C110	1-163-017-00	CERAMIC CHIP	0.0047uF	5% 50V	
C111	1-163-251-11	CERAMIC CHIP	100PF	5% 50V	
C112	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C113	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C123	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C124	1-164-005-11	CERAMIC CHIP	0.47uF	25V	
C151	1-163-007-11	CERAMIC CHIP	680PF	10% 50V	
C152	1-163-007-11	CERAMIC CHIP	680PF	10% 50V	
C153	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C154	1-164-336-11	CERAMIC CHIP	0.33uF	25V	
C155	1-163-007-11	CERAMIC CHIP	680PF	10% 50V	
C156	1-163-007-11	CERAMIC CHIP	680PF	10% 50V	
C157	1-163-033-00	CERAMIC CHIP	0.022uF	50V	
C158	1-163-033-00	CERAMIC CHIP	0.022uF	50V	
C159	1-163-023-00	CERAMIC CHIP	0.015uF	5% 50V	
C160	1-163-019-00	CERAMIC CHIP	0.0068uF	10% 50V	
C161	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
		< CONNECTOR >			
* CN101	1-568-865-11	SOCKET, CONNECTOR 23P			
CN102	1-568-795-11	SOCKET, CONNECTOR 12P			
		< IC >			
IC101	8-752-351-94	IC CXD2515Q			
IC102	8-759-071-79	IC BA6297AFP			

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R101	1-216-077-00	METAL CHIP	15K	5% 1/10W	
R102	1-216-097-00	METAL CHIP	100K	5% 1/10W	
R103	1-216-077-00	METAL CHIP	15K	5% 1/10W	
R104	1-216-085-00	METAL CHIP	33K	5% 1/10W	
R105	1-216-097-00	METAL CHIP	100K	5% 1/10W	
R106	1-216-061-00	METAL CHIP	3.3K	5% 1/10W	
R107	1-216-061-00	METAL CHIP	3.3K	5% 1/10W	
R108	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R109	1-216-121-00	METAL CHIP	1M	5% 1/10W	
R110	1-216-025-00	METAL CHIP	100	5% 1/10W	
R112	1-216-049-00	METAL CHIP	1K	5% 1/10W	
R113	1-216-077-00	METAL CHIP	15K	5% 1/10W	
R114	1-216-077-00	METAL CHIP	15K	5% 1/10W	
R117	1-216-077-00	METAL CHIP	15K	5% 1/10W	
R118	1-216-077-00	METAL CHIP	15K	5% 1/10W	
R121	1-216-077-00	METAL CHIP	15K	5% 1/10W	
R122	1-216-077-00	METAL CHIP	15K	5% 1/10W	
R123	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R124	1-216-097-00	METAL CHIP	100K	5% 1/10W	
R125	1-216-049-00	METAL CHIP	1K	5% 1/10W	
R126	1-216-049-00	METAL CHIP	1K	5% 1/10W	
R127	1-216-049-00	METAL CHIP	1K	5% 1/10W	
R131	1-216-037-00	METAL CHIP	330	5% 1/10W	
R151	1-216-070-00	METAL CHIP	7.5K	5% 1/10W	
R152	1-216-070-00	METAL CHIP	7.5K	5% 1/10W	
R153	1-216-070-00	METAL CHIP	7.5K	5% 1/10W	
R154	1-216-070-00	METAL CHIP	7.5K	5% 1/10W	
R155	1-216-070-00	METAL CHIP	7.5K	5% 1/10W	
R156	1-216-070-00	METAL CHIP	7.5K	5% 1/10W	
R157	1-216-093-00	METAL CHIP	68K	5% 1/10W	
R158	1-216-076-00	METAL CHIP	13K	5% 1/10W	
R159	1-216-085-00	METAL CHIP	33K	5% 1/10W	
R160	1-216-081-00	METAL CHIP	22K	5% 1/10W	
R161	1-216-308-00	METAL CHIP	4.7	5% 1/10W	
R162	1-216-093-00	METAL CHIP	68K	5% 1/10W	
R163	1-216-093-00	METAL CHIP	68K	5% 1/10W	

Ref. No.	Part No.	Description			Remark
		< SWITCH >			
S101	1-572-085-11	SWITCH, LEAF (LIMIT)			
**********					
*	1-650-431-11	CD PANEL BOARD			
		**********			
		< DIODE >			
D201	8-719-046-38	LED	SEL5821A-TH8C (❚❚)		
D202	8-719-046-42	LED	SEL5421E-TH8C (▷)		
		< TRANSISTOR >			
Q201	8-729-900-89	TRANSISTOR	DTC144ES		
Q202	8-729-900-89	TRANSISTOR	DTC144ES		
		< RESISTOR >			
R201	1-249-411-11	CARBON	330	5% 1/4W	
R202	1-249-409-11	CARBON	220	5% 1/4W	
R203	1-249-417-11	CARBON	1K	5% 1/4W	
R204	1-249-418-11	CARBON	1.2K	5% 1/4W	
R205	1-249-418-11	CARBON	1.2K	5% 1/4W	
R206	1-249-417-11	CARBON	1K	5% 1/4W	
R207	1-249-418-11	CARBON	1.2K	5% 1/4W	
R208	1-249-418-11	CARBON	1.2K	5% 1/4W	
R209	1-249-419-11	CARBON	1.5K	5% 1/4W	
R210	1-249-417-11	CARBON	1K	5% 1/4W	
R211	1-249-418-11	CARBON	1.2K	5% 1/4W	
R212	1-249-418-11	CARBON	1.2K	5% 1/4W	
R213	1-249-419-11	CARBON	1.5K	5% 1/4W	
		< SWITCH >			
S201	1-554-303-21	SWITCH, TACTILE (■)			
S202	1-554-303-21	SWITCH, TACTILE (▷)			
S203	1-554-303-21	SWITCH, TACTILE (❚❚)			
S204	1-554-303-21	SWITCH, TACTILE (▶▶ ⋊ (AMS))			
S205	1-554-303-21	SWITCH, TACTILE (⏏ OPEN/CLOSE)			
S206	1-554-303-21	SWITCH, TACTILE (⋉ ◀◀ (AMS))			
S207	1-554-303-21	SWITCH, TACTILE (PROGRAM (PLAY MODE))			
S208	1-554-303-21	SWITCH, TACTILE (REPEAT)			
S209	1-554-303-21	SWITCH, TACTILE (EDIT)			
S210	1-554-303-21	SWITCH, TACTILE (CONTINUE)			
S211	1-554-303-21	SWITCH, TACTILE (SHUFFLE (PLAY MODE))			
S212	1-554-303-21	SWITCH, TACTILE (TIME)			
S213	1-554-303-21	SWITCH, TACTILE (CLEAR)			
S214	1-554-303-21	SWITCH, TACTILE (CHECK)			
**********					
*	1-650-432-11	H.P. BOARD			
		**********			
		< JACK >			
CNJ12011	-569-113-11	JACK, LARGE TYPE (HEADPHONES)			
**********					
*	1-640-702-11	LEAF SW (A) BOARD			
		**********			
		< CAPACITOR >			
C544	1-164-159-11	CERAMIC	0.1uF	50V	
		< CONNECTOR >			
* CN415	1-568-942-11	PIN, CONNECTOR 4P			
		< SWITCH >			
S4	1-571-736-11	SWITCH, LEAF (MOTOR)			
S5	1-571-736-11	SWITCH, LEAF (PLAY)			
**********					
*	1-640-703-11	LEAF SW (B) BOARD			
		**********			
		< CAPACITOR >			
C545	1-164-159-11	CERAMIC	0.1uF	50V	
		< CONNECTOR >			
* CN416	1-568-943-11	PIN, CONNECTOR 5P			
		< SWITCH >			
S1	1-571-736-11	SWITCH, LEAF (MOTOR)			
S2	1-571-736-11	SWITCH, LEAF (PLAY)			
S3	1-571-736-11	SWITCH, LEAF (REC)			
**********					
*	1-645-721-21	LOADING BOARD			
		**********			
		< CONNECTOR >			
* CN151	1-568-943-11	PIN, CONNECTOR 5P			
		< SWITCH >			
S151	1-572-086-11	SWITCH, LEAF (LOAD OUT)			
S152	1-572-086-11	SWITCH, LEAF (LOAD IN)			
**********					

MAIN

Ref. No.	Part No.	Description			Remark
C318	1-124-907-11	ELECT	10uF	20%	50V
C319	1-164-159-11	CERAMIC	0.1uF		50V
C320	1-137-370-11	FILM	0.01uF	5%	50V
C321	1-137-370-11	FILM	0.01uF	5%	50V
C322	1-137-434-11	FILM	0.0018uF	5%	50V
C323	1-137-434-11	FILM	0.0018uF	5%	50V
C324	1-164-159-11	CERAMIC	0.1uF		50V
C325	1-164-159-11	CERAMIC	0.1uF		50V
C326	1-137-371-11	FILM	0.015uF	5%	50V
C327	1-137-371-11	FILM	0.015uF	5%	50V
C328	1-124-907-11	ELECT	10uF	20%	50V
C329	1-124-907-11	ELECT	10uF	20%	50V
C330	1-137-364-11	FILM	0.001uF	5%	50V
C331	1-137-364-11	FILM	0.001uF	5%	50V
C332	1-124-477-11	ELECT	47uF	20%	25V
C333	1-124-477-11	ELECT	47uF	20%	25V
C334	1-164-159-11	CERAMIC	0.1uF		50V
C335	1-164-159-11	CERAMIC	0.1uF		50V
C336	1-124-443-00	ELECT	100uF	20%	10V
C337	1-164-159-11	CERAMIC	0.1uF		50V
C338	1-164-027-11	CERAMIC	22PF	5%	50V
C339	1-164-056-11	CERAMIC	27PF	5%	50V
C340	1-124-666-11	ELECT	10uF	20%	50V
C341	1-164-159-11	CERAMIC	0.1uF		50V
C342	1-164-159-11	CERAMIC	0.1uF		50V
C1001	1-124-257-00	ELECT	2.2uF	20%	50V
C1002	1-162-282-31	CERAMIC (HCD-A190/D150)	100PF	10%	50V
C1003	1-162-282-31	CERAMIC (HCD-A190/D150)	100PF	10%	50V
C1004	1-124-477-11	ELECT (HCD-A190/D150)	47uF	20%	25V
C1005	1-161-377-00	CERAMIC (HCD-A190/D150)	0.0047uF	20%	16V
C1006	1-161-374-11	CERAMIC (HCD-A190/D150)	0.0015uF	20%	50V
C1007	1-124-464-11	ELECT (HCD-A190/D150)	0.22uF	20%	50V
C1010	1-124-477-11	ELECT	47uF	20%	25V
C1026	1-162-286-31	CERAMIC	220PF	10%	50V
C1051	1-124-257-00	ELECT	2.2uF	20%	50V
C1052	1-162-282-31	CERAMIC (HCD-A190/D150)	100PF	10%	50V
C1053	1-162-282-31	CERAMIC (HCD-A190/D150)	100PF	10%	50V
C1054	1-124-477-11	ELECT (HCD-A190/D150)	47uF	20%	25V
C1055	1-161-377-00	CERAMIC (HCD-A190/D150)	0.0047uF	20%	16V
C1056	1-161-374-11	CERAMIC (HCD-A190/D150)	0.0015uF	20%	50V

Ref. No.	Part No.	Description			Remark
C1057	1-124-464-11	ELECT (HCD-A190/D150)	0.22uF	20%	50V
C1060	1-124-477-11	ELECT	47uF	20%	25V
C1076	1-162-286-31	CERAMIC	220PF	10%	50V
C1215	1-162-282-31	CERAMIC	100PF	10%	50V
C1216	1-162-195-31	CERAMIC	4.7PF	10%	50V
C1217	1-161-379-00	CERAMIC	0.01uF	20%	25V
C1218	1-124-472-11	ELECT	470uF	20%	10V
C1232	1-124-916-11	ELECT	22uF	20%	63V
C1234	1-161-379-00	CERAMIC	0.01uF	20%	25V
C1265	1-162-282-31	CERAMIC	100PF	10%	50V
C1266	1-162-195-31	CERAMIC	4.7PF	10%	50V
C1267	1-161-379-00	CERAMIC	0.01uF	20%	25V
C1268	1-124-119-00	ELECT	330uF	20%	16V
C1306	1-124-477-11	ELECT	47uF	20%	25V
C1308	1-126-101-11	ELECT	100uF	20%	16V
C1309	1-126-101-11	ELECT	100uF	20%	16V
C1312	1-124-563-11	ELECT	2200uF	20%	25V
C1313	1-126-946-11	ELECT	6800uF	20%	25V
C1314	1-124-122-11	ELECT	100uF	20%	50V
C1315	1-124-927-11	ELECT	4.7uF	20%	100V
C1316	1-124-910-11	ELECT	47uF	20%	50V
C1319	1-124-463-00	ELECT	0.1uF	20%	50V
C1320	1-124-907-11	ELECT	10uF	20%	50V
C1321	1-161-379-00	CERAMIC	0.01uF	20%	25V
C1322	1-161-379-00	CERAMIC	0.01uF	20%	25V
C1324	1-124-907-11	ELECT	10uF	20%	50V
C1326	1-124-907-11	ELECT	10uF	20%	50V
C1330	1-126-101-11	ELECT	100uF	20%	16V
C1331	1-102-394-11	CERAMIC	0.01uF		250V
C1335	1-124-907-11	ELECT (AEP1, UK)	10uF	20%	50V
C1336	1-126-101-11	ELECT (AEP1, UK)	10uF	20%	16V
C1340	1-124-480-11	ELECT	470uF	20%	25V
C1341	1-124-907-11	ELECT	10uF	20%	50V
C1351	1-124-910-11	ELECT	47uF	20%	50V
C1352	1-126-105-11	ELECT	1000uF	20%	35V
C1361	1-124-910-11	ELECT	47uF	20%	50V

< FILTER >

CF1	1-567-389-11	FILTER, CERAMIC
CF2	1-567-389-11	FILTER, CERAMIC
CF4	1-527-981-00	FILTER, CERAMIC
CF5	1-577-075-11	OSCILLATOR, CERAMIC
CF6	1-760-220-11	FILTER, CERAMIC

< CONNECTOR >

* CN1	1-568-830-11	SOCKET, CONNECTOR 11P

Ref. No.	Part No.	Description			Remark
*	A-4365-784-A	MAIN BOARD, COMPLETE (HCD-G1000)			
*	A-4365-791-A	MAIN BOARD, COMPLETE (UK)			
*	A-4365-803-A	MAIN BOARD, COMPLETE (Canadian, HCD-D150)			
*	A-4369-283-A	MAIN BOARD, COMPLETE (AEP)			
*	A-4369-579-A	MAIN BOARD, COMPLETE (AEP1)			
		**********			
*	4-942-204-01	PLATE, GROUND			
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S			
		CAPACITOR			
C1	1-161-379-00	CERAMIC	0.01uF	20%	25V
C2	1-124-477-11	ELECT	47uF	20%	25V
C3	1-161-379-00	CERAMIC	0.01uF	20%	25V
C4	1-161-379-00	CERAMIC	0.01uF	20%	25V
C5	1-164-159-11	CERAMIC	0.1uF		50V
C6	1-161-379-00	CERAMIC	0.01uF	20%	25V
C7	1-124-477-11	ELECT	47uF	20%	25V
C8	1-161-379-00	CERAMIC	0.01uF	20%	25V
C9	1-161-379-00	CERAMIC	0.01uF	20%	25V
C10	1-161-379-00	CERAMIC	0.01uF	20%	25V
C11	1-124-907-11	ELECT	10uF	20%	50V
C12	1-124-902-00	ELECT	0.47uF	20%	50V
C13	1-124-903-11	ELECT	1uF	20%	50V
C14	1-124-903-11	ELECT	1uF	20%	50V
C15	1-124-907-11	ELECT	10uF	20%	50V
C16	1-124-907-11	ELECT	10uF	20%	50V
C17	1-124-907-11	ELECT	10uF	20%	50V
C18	1-124-907-11	ELECT	10uF	20%	50V
C19	1-136-160-00	FILM (US, Canadian)	0.039uF	5%	50V
C19	1-136-158-00	FILM (AEP, UK)	0.027uF	5%	50V
C20	1-136-160-00	FILM (US, Canadian)	0.039uF	5%	50V
C20	1-136-158-00	FILM (AEP, UK)	0.027uF	5%	50V
C21	1-161-046-00	CERAMIC (HCD-A190)	0.0039uF	10%	25V
C22	1-161-046-00	CERAMIC (HCD-A190)	0.0039uF	10%	25V
C23	1-124-903-11	ELECT	1uF	20%	50V
C24	1-162-294-31	CERAMIC	0.001uF	10%	50V
C25	1-161-327-00	CERAMIC	0.0033uF	30%	16V
C26	1-124-477-11	ELECT	47uF	20%	25V
C27	1-123-382-00	ELECT	3.3uF	20%	100V
C28	1-161-494-00	CERAMIC	0.022uF		25V
C29	1-124-907-11	ELECT	10uF	20%	50V
C30	1-161-494-00	CERAMIC	0.022uF		25V
C31	1-101-005-00	CERAMIC	22000PF		50V

Ref. No.	Part No.	Description			Remark
C32	1-162-198-31	CERAMIC (US, Canadian)	8.2PF	10%	50V
C32	1-162-196-31	CERAMIC (AEP, UK)	5.6PF	10%	50V
C33	1-161-379-00	CERAMIC	0.01uF	20%	25V
C34	1-161-159-11	CEARMIC (AEP, UK)	0.1uF		50V
C37	1-161-374-11	CERAMIC (AEP, UK)	0.0015uF	20%	50V
C38	1-102-120-00	CERAMIC (AEP, UK)	0.0018uF	10%	50V
C39	1-101-005-00	CERAMIC (AEP, UK)	22000PF		50V
C45	1-161-379-00	CERAMIC	0.01uF	20%	25V
C51	1-102-961-00	CERAMIC	27PF	5%	50V
C52	1-102-961-00	CERAMIC	27PF	5%	50V
C53	1-124-477-11	ELECT	47uF	20%	25V
C54	1-161-379-00	CERAMIC	0.01uF	20%	25V
C55	1-161-379-00	CERAMIC	0.01uF	20%	25V
C56	1-161-379-00	CERAMIC	0.01uF	20%	25V
C57	1-161-379-00	CERAMIC	0.01uF	20%	25V
C58	1-161-379-00	CERAMIC	0.01uF	20%	25V
C61	1-124-925-11	ELECT	2.2uF	20%	100V
C62	1-124-463-00	ELECT	0.1uF	20%	50V
C63	1-161-379-00	CERAMIC	0.01uF	20%	25V
C64	1-161-379-00	CERAMIC	0.01uF	20%	25V
C65	1-124-477-11	ELECT	47uF	20%	25V
C67	1-161-379-00	CERAMIC	0.01uF	20%	25V
C71	1-136-173-00	FILM (AEP, UK)	0.47uF	5%	50V
C72	1-161-494-00	CERAMIC (AEP, UK)	0.022uF		25V
C73	1-124-463-00	ELECT (AEP, UK)	0.1uF	20%	50V
C301	1-124-477-11	ELECT	47uF	20%	25V
C303	1-124-927-11	ELECT	4.7uF	20%	100V
C304	1-126-176-11	ELECT	220uF	20%	10V
C305	1-124-472-11	ELECT	470uF	20%	10V
C306	1-124-902-00	ELECT	0.47uF	20%	50V
C307	1-164-159-11	CERAMIC	0.1uF		50V
C308	1-124-472-11	ELECT	470uF	20%	10V
C309	1-124-443-00	ELECT	100uF	20%	10V
C310	1-164-159-11	CERAMIC	0.1uF		50V
C311	1-164-159-11	CERAMIC	0.1uF		50V
C312	1-162-290-31	CERAMIC	470PF	10%	50V
C313	1-161-379-00	CERAMIC	0.01uF	20%	25V
C314	1-161-494-00	CERAMIC	0.022uF		25V
C315	1-164-159-11	CERAMIC	0.1uF		50V
C316	1-161-494-00	CERAMIC	0.022uF		25V
C317	1-164-159-11	CERAMIC	0.1uF		50V

Ref. No.	Part No.	Description	Remark
* CN301	1-568-934-11	PIN, CONNECTOR 7P	
* CN302	1-568-839-11	SOCKET, CONNECTOR 23P	
* CN303	1-568-954-11	PIN, CONNECTOR 5P	
* CN1201	1-537-327-11	TERMINAL BOARD	
* CN1202	1-564-506-11	PLUG, CONNECTOR 3P	
CN1203	1-564-506-11	PLUG, CONNECTOR 3P	
CN1204	1-564-510-11	PLUG, CONNECTOR 7P	
* CN1205	1-564-509-11	PLUG, CONNECTOR 6P	
CN1206	1-568-838-11	SOCKET, CONNECTOR 21P	
CN1301	1-564-511-11	PLUG, CONNECTOR 8P	
CN1302	1-566-210-11	PIN, CONNECTOR 3P (PHONO (POWER SOURCE ONLY FOR PS-LX56P)) (AEP1, UK)	
		< DIODE >	
D1	8-719-987-63	DIODE 1N4148M	
D301	8-719-987-63	DIODE 1N4148M	
D302	8-719-010-33	DIODE UZ-4.7BSB	
D304	8-719-210-21	DIODE 11EQS04	
D1201	8-719-987-63	DIODE 1N4148M	
D1301	8-719-312-09	DIODE RBA 402	
D1302	8-719-200-82	DIODE 11ES2	
D1303	8-719-200-82	DIODE 11ES2	
D1304	8-719-200-82	DIODE 11ES2	
D1305	8-719-200-82	DIODE 11ES2	
D1306	8-719-001-76	DIODE UZL 12M3	
D1307	8-719-200-82	DIODE 11ES2	
D1308	8-719-002-60	DIODE UZL-33L	
D1309	8-719-014-66	DIODE UZP-5.6B	
D1310	8-719-987-63	DIODE 1N4148M	
D1317	8-719-200-82	DIODE 11ES2	
D1318	8-719-200-82	DIODE 11ES2	
D1319	8-719-200-82	DIODE 11ES2	
D1320	8-719-200-82	DIODE 11ES2	
D1321	8-719-200-82	DIODE 11ES2	
D1322	8-719-200-82	DIODE 11ES2	
D1323	8-719-200-82	DIODE 11ES2	
D1324	8-719-200-82	DIODE 11ES2	
D1325	8-719-200-82	DIODE 11ES2	
D1326	8-719-200-82	DIODE 11ES2	
D1327	8-719-200-82	DIODE 11ES2	
D1328	8-719-200-82	DIODE 11ES2	
D1329	8-719-200-82	DIODE 11ES2	
D1330	8-719-200-82	DIODE 11ES2	
D1385	8-719-200-82	DIODE 11ES2	
		< INDUCTOR >	
FB302	1-412-473-21	INDUCTOR 0UH	

Ref. No.	Part No.	Description	Remark
		< FRONT END >	
FE1	1-465-673-11	FRONT END (2 BAND) (US, Canadian, UK)	
FE1	1-693-090-31	FRONT END (FM) (2 GANG) (AEP)	
FE2	1-239-634-11	ENCAPSULATED COMPONENT, AM. RF (US, Canadian)	
FE2	1-239-261-12	ENCAPSULATED COMPONENT (AEP, UK)	
FE3	1-236-463-11	ENCAPSULATED COMPONENT (AEP, UK)	
		< IC >	
IC1	8-759-176-03	IC LA1835	
IC51	8-759-175-87	IC LC7218-ST	
IC301	8-759-247-42	IC BA3962	
IC302	8-759-805-37	IC L78LR05D-MA	
IC303	8-759-248-11	IC TMP87CH46N-4067	
IC304	8-759-822-09	IC LB1641	
IC305	8-759-145-58	IC uPC4558C	
IC306	8-759-145-58	IC uPC4558C	
IC307	8-759-096-75	IC TDA1545P	
IC308	8-759-917-18	IC SN74HCU04AN	
IC1001	8-759-634-51	IC M5218AP (HCD-A190/D150)	
IC1002	8-759-000-48	IC MC14052BCP	
IC1003	8-759-634-51	IC M5218AP	
IC1202	8-759-634-51	IC M5218AP	
IC1303	8-759-605-00	IC M5F78M07L	
IC1304	8-759-604-95	IC M5F79M07L	
IC1305	8-759-820-13	IC L78MR06	
IC1306	8-759-231-58	IC TA7812S (AEP1, UK)	
		< IFT >	
IFT1	1-404-713-11	TRANSFORMER, IF	
		< JACK >	
* J1001	1-580-691-11	JACK, PIN 2P (PHONO (IN)) (HCD-A190/D150)	
* J1001	1-580-691-11	JACK, PIN 2P (VIDEO (IN)) (HCD-G1000)	
		< COIL >	
L1	1-410-688-31	INDUCTOR 1.5mH (US, Canadian)	
L1	1-407-500-00	INDUCTOR 4.7mH (AEP, UK)	
L2	1-410-525-11	INDUCTOR 220uH (AEP, UK)	
L301	1-410-322-11	INDUCTOR 3.3uH	
L302	1-410-517-11	INDUCTOR 47uH	
L303	1-410-517-11	INDUCTOR 47uH	
		< FILTER >	
LPF1	1-239-597-11	FILTER, LOW PASS (HCD-A190)	
LPF2	1-239-597-11	FILTER, LOW PASS (HCD-A190)	

MAIN

Ref No	Part No	Description				Remark
		< TRANSISTOR >				
Q1	8-729-230-99	TRANSISTOR	2SC2669-OY			
Q3	8-729-119-76	TRANSISTOR	2SA1175-HFE (AEP, UK)			
Q4	8-729-119-76	TRANSISTOR	2SA1175-HFE (AEP, UK)			
Q5	8-729-900-80	TRANSISTOR	DTC114ES (AEP, UK)			
Q6	8-729-900-80	TRANSISTOR	DTC114ES (AEP, UK)			
Q7	8-729-900-80	TRANSISTOR	DTC114ES (AEP, UK)			
Q8	8-729-900-80	TRANSISTOR	DTC114ES (AEP, UK)			
Q55	8-729-900-61	TRANSISTOR	DTA114ES			
Q61	8-729-202-67	TRANSISTOR	2SK246-GR3			
Q62	8-729-201-84	TRANSISTOR	2SC3112-B			
Q71	8-729-202-67	TRANSISTOR	2SK246-GR3 (AEP, UK)			
Q72	8-729-201-84	TRANSISTOR	2SC3112-B (AEP, UK)			
Q301	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q302	8-729-900-80	TRANSISTOR	DTC114ES			
Q303	8-729-900-61	TRANSISTOR	DTA114ES			
Q304	8-729-900-61	TRANSISTOR	DTA114ES			
Q305	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q306	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q1001	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q1051	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q1301	8-729-141-83	TRANSISTOR	2SB1094-LK			
Q1302	8-729-209-15	TRANSISTOR	2SD2012			
		< RESISTOR >				
R1	1-249-411-11	CARBON	330	5%	1/4W	
R2	1-249-411-11	CARBON	330	5%	1/4W	
R3	1-249-409-11	CARBON	220	5%	1/4W	
⚠R4	1-249-402-11	CARBON	56	5%	1/4W	F
R5	1-247-891-00	CARBON	330K	5%	1/4W	
R6	1-249-411-11	CARBON	330	5%	1/4W	
⚠R9	1-247-807-31	CARBON	100	5%	1/4W	F
R10	1-249-437-11	CARBON	47K	5%	1/4W	
R12	1-249-429-11	CARBON	10K	5%	1/4W	
R13	1-249-442-11	CARBON	510	5%	1/4W	
⚠R14	1-249-403-11	CARBON	68	5%	1/4W	F
R16	1-249-429-11	CARBON	10K	5%	1/4W	
R17	1-247-842-11	CARBON	3K	5%	1/4W	
R18	1-249-429-11	CARBON	10K	5%	1/4W	
R19	1-249-441-11	CARBON	100K	5%	1/4W	
R20	1-249-435-11	CARBON	33K	5%	1/4W	
R21	1-249-441-11	CARBON	100K	5%	1/4W	
R22	1-249-437-11	CARBON	47K	5%	1/4W	
R23	1-249-399-11	CARBON	33	5%	1/4W	
R24	1-249-425-11	CARBON (AEP, UK)	4.7K	5%	1/4W	
R25	1-249-429-11	CARBON (AEP, UK)	10K	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R26	1-249-429-11	CARBON (AEP, UK)	10K	5%	1/4W	
R27	1-249-429-11	CARBON (AEP, UK)	10K	5%	1/4W	
R30	1-249-429-11	CARBON (AEP, UK)	10K	5%	1/4W	
R31	1-249-429-11	CARBON (AEP, UK)	10K	5%	1/4W	
R32	1-249-433-11	CARBON (AEP, UK)	22K	5%	1/4W	
R33	1-247-903-00	CARBON (AEP, UK)	1M	5%	1/4W	
R34	1-249-437-11	CARBON (AEP, UK)	47K	5%	1/4W	
R35	1-249-423-11	CARBON	3.3K	5%	1/4W	
R36	1-249-423-11	CARBON	3.3K	5%	1/4W	
R45	1-249-426-11	CARBON	5.6K	5%	1/4W	
R46	1-249-426-11	CARBON	5.6K	5%	1/4W	
R48	1-249-423-11	CARBON	3.3K	5%	1/4W	
R49	1-249-429-11	CARBON	10K	5%	1/4W	
⚠R50	1-249-401-11	CARBON	47	5%	1/4W	F
R51	1-249-417-11	CARBON	1K	5%	1/4W	
R52	1-249-417-11	CARBON	1K	5%	1/4W	
R53	1-249-417-11	CARBON	1K	5%	1/4W	
R54	1-249-417-11	CARBON	1K	5%	1/4W	
R56	1-249-425-11	CARBON	4.7K	5%	1/4W	
R57	1-249-417-11	CARBON	1K	5%	1/4W	
R58	1-249-417-11	CARBON	1K	5%	1/4W	
⚠R60	1-247-807-31	CARBON	100	5%	1/4W	F
R61	1-249-423-11	CARBON	3.3K	5%	1/4W	
R62	1-249-425-11	CARBON	4.7K	5%	1/4W	
R63	1-249-414-11	CARBON	560	5%	1/4W	
R64	1-249-417-11	CARBON	1K	5%	1/4W	
R65	1-249-410-11	CARBON	270	5%	1/4W	
R66	1-249-421-11	CARBON	2.2K	5%	1/4W	
R67	1-249-425-11	CARBON	4.7K	5%	1/4W	
R68	1-249-425-11	CARBON	4.7K	5%	1/4W	
R69	1-247-807-31	CARBON	100	5%	1/4W	
R71	1-249-423-11	CARBON (AEP, UK)	3.3K	5%	1/4W	
R72	1-249-433-11	CARBON (AEP, UK)	22K	5%	1/4W	
R73	1-249-414-11	CARBON (AEP, UK)	560	5%	1/4W	
R74	1-249-417-11	CARBON (AEP, UK)	1K	5%	1/4W	
R75	1-249-410-11	CARBON (AEP, UK)	270	5%	1/4W	
R76	1-249-421-11	CARBON (AEP, UK)	2.2K	5%	1/4W	

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remark
R77	1-249-425-11	CARBON (AEP, UK)	4.7K	5%	1/4W
R78	1-247-807-31	CARBON (AEP, UK)	100	5%	1/4W
R301	1-249-429-11	CARBON	10K	5%	1/4W
R302	1-249-429-11	CARBON	10K	5%	1/4W
R303	1-249-417-11	CARBON	1K	5%	1/4W
R304	1-249-425-11	CARBON	4.7K	5%	1/4W
R305	1-249-417-11	CARBON	1K	5%	1/4W
R306	1-249-417-11	CARBON	1K	5%	1/4W
R307	1-249-417-11	CARBON	1K	5%	1/4W
R309	1-249-431-11	CARBON	15K	5%	1/4W
R310	1-249-431-11	CARBON	15K	5%	1/4W
R311	1-249-431-11	CARBON	15K	5%	1/4W
R312	1-249-425-11	CARBON	4.7K	5%	1/4W
R313	1-249-425-11	CARBON	4.7K	5%	1/4W
R315	1-249-429-11	CARBON	10K	5%	1/4W
R316	1-249-429-11	CARBON	10K	5%	1/4W
R317	1-249-429-11	CARBON	10K	5%	1/4W
R318	1-249-429-11	CARBON	10K	5%	1/4W
R319	1-249-431-11	CARBON	15K	5%	1/4W
R320	1-249-434-11	CARBON	27K	5%	1/4W
R321	1-249-434-11	CARBON	27K	5%	1/4W
R322	1-249-425-11	CARBON	4.7K	5%	1/4W
R323	1-249-425-11	CARBON	4.7K	5%	1/4W
R324	1-249-411-11	CARBON	330	5%	1/4W
R325	1-249-411-11	CARBON	330	5%	1/4W
R326	1-247-842-11	CARBON	3K	5%	1/4W
R327	1-247-842-11	CARBON	3K	5%	1/4W
R328	1-249-416-11	CARBON	820	5%	1/4W
R329	1-249-416-11	CARBON	820	5%	1/4W
R330	1-249-420-11	CARBON	1.8K	5%	1/4W
R331	1-249-420-11	CARBON	1.8K	5%	1/4W
R332	1-249-424-11	CARBON	3.9K	5%	1/4W
R333	1-249-424-11	CARBON	3.9K	5%	1/4W
R334	1-249-420-11	CARBON	1.8K	5%	1/4W
R335	1-249-420-11	CARBON	1.8K	5%	1/4W
R336	1-247-838-00	CARBON	2K	5%	1/4W
R337	1-247-838-00	CARBON	2K	5%	1/4W
R338	1-249-417-11	CARBON	1K	5%	1/4W
R339	1-249-417-11	CARBON	1K	5%	1/4W
R340	1-249-441-11	CARBON	100K	5%	1/4W
R341	1-249-441-11	CARBON	100K	5%	1/4W
R342	1-247-903-00	CARBON	1M	5%	1/4W
R343	1-247-828-11	CARBON	750	5%	1/4W
R344	1-249-414-11	CARBON	560	5%	1/4W
R1001	1-249-417-11	CARBON	1K	5%	1/4W
R1002	1-249-437-11	CARBON (HCD-A190/D150)	47K	5%	1/4W
R1003	1-249-416-11	CARBON (HCD-A190/D150)	820	5%	1/4W
R1004	1-247-897-11	CARBON (HCD-A190/D150)	560K	5%	1/4W
R1005	1-249-437-11	CARBON (HCD-A190/D150)	47K	5%	1/4W
R1006	1-249-409-11	CARBON (HCD-A190/D150)	220	5%	1/4W
R1007	1-249-441-11	CARBON	100K	5%	1/4W
R1010	1-249-431-11	CARBON	15K	5%	1/4W
R1016	1-249-437-11	CARBON	47K	5%	1/4W
R1017	1-249-437-11	CARBON	47K	5%	1/4W
R1021	1-249-434-11	CARBON	27K	5%	1/4W
R1023	1-249-434-11	CARBON	27K	5%	1/4W
R1034	1-249-425-11	CARBON	4.7K	5%	1/4W
R1035	1-249-433-11	CARBON	22K	5%	1/4W
R1036	1-249-425-11	CARBON	4.7K	5%	1/4W
R1037	1-249-437-11	CARBON	47K	5%	1/4W
R1051	1-249-417-11	CARBON	1K	5%	1/4W
R1052	1-249-437-11	CARBON (HCD-A190/D150)	47K	5%	1/4W
R1053	1-249-416-11	CARBON (HCD-A190/D150)	820	5%	1/4W
R1054	1-247-897-11	CARBON (HCD-A190/D150)	560K	5%	1/4W
R1055	1-249-437-11	CARBON (HCD-A190/D150)	47K	5%	1/4W
R1056	1-249-409-11	CARBON (HCD-A190/D150)	220	5%	1/4W
R1057	1-249-441-11	CARBON	100K	5%	1/4W
R1060	1-249-431-11	CARBON	15K	5%	1/4W
R1071	1-249-434-11	CARBON	27K	5%	1/4W
R1073	1-249-434-11	CARBON	27K	5%	1/4W
R1210	1-249-437-11	CARBON	47K	5%	1/4W
R1211	1-247-901-11	CARBON	820K	5%	1/4W
R1212	1-249-399-11	CARBON	33	5%	1/4W
R1214	1-249-429-11	CARBON	10K	5%	1/4W
R1260	1-249-437-11	CARBON	47K	5%	1/4W
R1261	1-247-901-11	CARBON	820K	5%	1/4W
R1262	1-249-399-11	CARBON	33	5%	1/4W
R1263	1-247-807-31	CARBON	100	5%	1/4W
R1303	1-249-421-11	CARBON	2.2K	5%	1/4W
R1304	1-249-425-11	CARBON	4.7K	5%	1/4W
R1321	1-249-417-11	CARBON	1K	5%	1/4W
R1322	1-249-429-11	CARBON	10K	5%	1/4W
R1345	1-249-422-11	CARBON	2.7K	5%	1/4W

< VARIABLE RESISTOR >

RV1	1-238-601-11	RES, ADJ, CARBON 22K
RV2	1-238-600-11	RES, ADJ, CARBON 10K

MAIN **MAIN TC**

Ref. No.	Part No.	Description	Remark
		TERMINAL	
* EM1	1 537 264 11	TERMINAL BOARD (ANTENNA) (US, Canadian, UK)	
* EM1	1 537 288 11	TERMINAL BOARD, ANTENNA (PAL) (AEP)	(ANTENNA)
		< VIBRATOR >	
X301	1 579 125 11	VIBRATOR, CERAMIC (8MHz)	
X302	1 567 908 11	VIBRATOR, CRYSTAL (16.9MHz)	
XT51	1 577 126 21	VIBRATOR, CRYSTAL (7.2MHz)	
**********			
*	A 4365 772 A	MAIN TC BOARD, COMPLETE (HCD-G1000)	
*	A 4365 787 A	MAIN TC BOARD, COMPLETE (HCD-A190)	
*	A 4365 795 A	MAIN TC BOARD, COMPLETE (HCD-D150)	
		**********	
+	4 942 204 01	PLATE, GROUND	
		< CAPACITOR >	
C700	1 162 282 31	CERAMIC 100PF 10% 50V	
C701	1 162 290 31	CERAMIC 470PF 10% 50V	
C702	1 137 372 11	FILM 0.022uF 5% 50V	
C703	1 124 907 11	ELECT 10uF 20% 50V	
C704	1 162 292 31	CERAMIC 680PF 10% 50V	
C710	1 162 282 31	CERAMIC 100PF 10% 50V	
C711	1 162 289 31	CERAMIC 390PF 10% 50V	
C712	1 137 372 11	FILM 0.022uF 5% 50V	
C713	1 124 907 11	ELECT 10uF 20% 50V	
C715	1 124 443 00	ELECT 100uF 20% 10V	
C721	1 137 368 11	FILM 0.0047uF 5% 50V	
C722	1 124 903 11	ELECT 1uF 20% 50V	
C723	1 124 927 11	ELECT 4.7uF 20% 100V	
C724	1 137 399 11	FILM 0.1uF 5% 50V (Canadian, AEP, UK)	
C724	1 164 095 11	CERAMIC 0.01uF 10% 16V (US)	
C725	1 124 907 11	ELECT 10uF 20% 50V	
C726	1 124 903 11	ELECT 1uF 20% 50V	
C727	1 124 902 00	ELECT 0.47uF 20% 50V	
C728	1 124 927 11	ELECT 4.7uF 20% 100V	
C729	1 162 291 31	CERAMIC 560PF 10% 50V	
C730	1 161 374 11	CERAMIC 0.0015uF 20% 50V	
C731	1 164 056 11	CERAMIC 27PF 5% 50V	
C732	1 101 890 00	CERAMIC 75PF 5% 50V	
C733	1 162 288 31	CERAMIC 330PF 10% 50V	
C734	1 164 066 11	CERAMIC 68PF 5% 50V	
C800	1 162 282 31	CERAMIC 100PF 10% 50V	
C801	1 162 290 31	CERAMIC 470PF 10% 50V	
C802	1 137 372 11	FILM 0.022uF 5% 50V	

Ref. No.	Part No.	Description	Remark
C803	1 124 907 11	ELECT 10uF 20% 50V	
C804	1 162 292 31	CERAMIC 680PF 10% 50V	
C810	1 162 282 31	CERAMIC 100PF 10% 50V	
C811	1 162 289 31	CERAMIC 390PF 10% 50V	
C812	1 137 372 11	FILM 0.022uF 5% 50V	
C813	1 124 907 11	ELECT 10uF 20% 50V	
C815	1 124 443 00	ELECT 100uF 20% 10V	
C821	1 137 368 11	FILM 0.0047uF 5% 50V	
C822	1 124 903 11	ELECT 1uF 20% 50V	
C823	1 124 927 11	ELECT 4.7uF 20% 100V	
C824	1 137 399 11	FILM 0.1uF 5% 50V (Canadian, AEP, UK)	
C824	1 164 095 11	CERAMIC 0.01uF 10% 16V (US)	
C825	1 124 907 11	ELECT 10uF 20% 50V	
C826	1 124 903 11	ELECT 1uF 20% 50V	
C827	1 124 902 00	ELECT 0.47uF 20% 50V	
C828	1 124 927 11	ELECT 4.7uF 20% 100V	
C829	1 162 291 31	CERAMIC 560PF 10% 50V	
C830	1 161 374 11	CERAMIC 0.0015uF 20% 50V	
C831	1 164 056 11	CERAMIC 27PF 5% 50V	
C832	1 101 890 00	CERAMIC 75PF 5% 50V	
C833	1 162 288 31	CERAMIC 330PF 10% 50V	
C834	1 164 066 11	CERAMIC 68PF 5% 50V	
C903	1 124 443 00	ELECT 100uF 20% 10V	
C904	1 124 443 00	ELECT 100uF 20% 10V	
C905	1 124 443 00	ELECT 100uF 20% 10V	
C906	1 124 443 00	ELECT 100uF 20% 10V	
C907	1 124 443 00	ELECT 100uF 20% 10V	
C908	1 124 443 00	ELECT 100uF 20% 10V	
C909	1 124 907 11	ELECT 10uF 20% 50V	
C910	1 124 907 11	ELECT 10uF 20% 50V	
C913	1 124 927 11	ELECT 4.7uF 20% 100V	
C915	1 126 933 11	ELECT 100uF 20% 16V	
C920	1 161 379 00	CERAMIC 0.01uF 20% 25V	
C921	1 124 925 11	ELECT 2.2uF 20% 100V	
C922	1 137 460 91	FILM 0.0082uF 5% 100V	
C923	1 124 925 11	ELECT 2.2uF 20% 100V	
C924	1 137 438 11	FILM 0.0082uF 5% 50V	
C925	1 161 329 00	CERAMIC 0.0068uF 30% 16V	
C926	1 137 436 11	FILM 0.0039uF 5% 50V	
C927	1 137 436 11	FILM 0.0039uF 5% 50V	
C928	1 137 399 11	FILM 0.1uF 5% 50V	
C929	1 124 120 11	ELECT 220uF 20% 25V	
C931	1 124 120 11	ELECT 220uF 20% 25V	
C942	1 124 927 11	ELECT 4.7uF 20% 100V (HCD-A190)	
C943	1 124 903 11	ELECT 1uF 20% 50V	
C944	1 124 907 11	ELECT 10uF 20% 50V	

Ref. No.	Part No.	Description			Remark
C945	1-161-379-00	CERAMIC	0.01uF	20%	25V
C946	1-124-925-11	ELECT	2.2uF	20%	100V
		< CONNECTOR >			
* CN901	1-564-507-11	PLUG, CONNECTOR 4P			
* CN902	1-564-508-11	PLUG, CONNECTOR 5P			
CN903	1-564-506-11	PLUG, CONNECTOR 3P			
* CN904	1-564-509-11	PLUG, CONNECTOR 6P			
CN905	1-564-505-11	PLUG, CONNECTOR 2P			
* CN906	1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P			
* CN911	1-560-061-00	PIN, CONNECTOR 3P			
* CN912	1-560-060-00	PIN, CONNECTOR 2P (HCD-A190/G1000)			
		< DIODE >			
D901	8-719-987-63	DIODE	1N4148M		
D902	8-719-987-63	DIODE	1N4148M		
D903	8-719-987-63	DIODE	1N4148M		
D904	8-719-987-63	DIODE	1N4148M		
D905	8-719-987-63	DIODE	1N4148M		
D906	8-719-987-63	DIODE	1N4148M		
D907	8-719-987-63	DIODE	1N4148M		
D908	8-719-987-63	DIODE	1N4148M		
D909	8-719-987-63	DIODE	1N4148M		
		< IC >			
IC903	8-759-098-73	IC	HA12172NT (Canadian, AEP, UK)		
IC903	8-759-198-48	IC	HA12184NT (US)		
IC904	8-759-111-44	IC	uPC4570C-1		
IC905	8-759-111-44	IC	uPC4570C-1		
IC906	8-759-143-54	IC	uPC1330HA		
IC907	8-759-240-81	IC	TC4081BP		
		< COIL >			
L701	1-410-780-11	INDUCTOR	27mH		
L801	1-410-780-11	INDUCTOR	27mH		
L901	1-414-223-11	INDUCTOR	470uH		
		< TRANSISTOR >			
Q701	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q801	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q901	8-729-194-57	TRANSISTOR	2SC945-P		
Q902	8-729-194-57	TRANSISTOR	2SC945-P		
Q903	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q904	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q905	8-729-119-76	TRANSISTOR	2SA1175-HFE (HCD-A190/G1000)		
Q906	8-729-900-89	TRANSISTOR	DTC144ES (HCD-A190/G1000)		
Q907	8-729-900-89	TRANSISTOR	DTC144ES		
Q908	8-729-900-89	TRANSISTOR	DTC144ES (HCD-A190)		

Ref. No.	Part No.	Description		Remark
Q909	8-729-900-89	TRANSISTOR	DTC144ES	
Q910	8-729-900-65	TRANSISTOR	DTA144ES	
Q911	8-729-900-65	TRANSISTOR	DTA144ES	(HCD-A190/G1000)
Q912	8-729-900-89	TRANSISTOR	DTC144ES	(HCD-A190/G1000)
		< RESISTOR >		
R701	1-247-889-00	CARBON	270K 5%	1/4W
R702	1-249-404-00	CARBON	82 5%	1/4W
R703	1-247-882-11	CARBON	130K 5%	1/4W
R704	1-247-850-11	CARBON	6.2K 5%	1/4W
R711	1-247-889-00	CARBON	270K 5%	1/4W
R712	1-249-404-00	CARBON	82 5%	1/4W
R713	1-247-882-11	CARBON	130K 5%	1/4W
R714	1-247-850-11	CARBON	6.2K 5%	1/4W
R715	1-249-433-11	CARBON	22K 5%	1/4W
R720	1-249-425-11	CARBON	4.7K 5%	1/4W
R721	1-249-429-11	CARBON	10K 5%	1/4W
R722	1-249-431-11	CARBON	15K 5%	1/4W
R723	1-249-429-11	CARBON	10K 5%	1/4W
R724	1-249-421-11	CARBON	2.2K 5%	1/4W
R725	1-249-428-11	CARBON	8.2K 5%	1/4W
R726	1-247-840-00	CARBON	2.4K 5%	1/4W
R727	1-249-433-11	CARBON	22K 5%	1/4W
R728	1-249-417-11	CARBON	1K 5%	1/4W
R731	1-249-430-11	CARBON	12K 5%	1/4W
R801	1-247-889-00	CARBON	270K 5%	1/4W
R802	1-249-404-00	CARBON	82 5%	1/4W
R803	1-247-882-11	CARBON	130K 5%	1/4W
R804	1-247-850-11	CARBON	6.2K 5%	1/4W
R811	1-247-889-00	CARBON	270K 5%	1/4W
R812	1-249-404-00	CARBON	82 5%	1/4W
R813	1-247-882-11	CARBON	130K 5%	1/4W
R814	1-247-850-11	CARBON	6.2K 5%	1/4W
R815	1-249-433-11	CARBON	22K 5%	1/4W
R820	1-249-425-11	CARBON	4.7K 5%	1/4W
R821	1-249-429-11	CARBON	10K 5%	1/4W
R822	1-249-431-11	CARBON	15K 5%	1/4W
R823	1-249-429-11	CARBON	10K 5%	1/4W
R824	1-249-421-11	CARBON	2.2K 5%	1/4W
R825	1-249-428-11	CARBON	8.2K 5%	1/4W
R826	1-247-840-00	CARBON	2.4K 5%	1/4W
R827	1-249-433-11	CARBON	22K 5%	1/4W
R828	1-249-417-11	CARBON	1K 5%	1/4W
R831	1-249-430-11	CARBON	12K 5%	1/4W
R902	1-249-389-11	CARBON	4.7 5%	1/4W
R903	1-249-413-11	CARBON	470 5%	1/4W
R904	1-249-413-11	CARBON	470 5%	1/4W
R905	1-249-413-11	CARBON	470 5%	1/4W
R906	1-249-413-11	CARBON	470 5%	1/4W

MAIN TC PANEL

Ref. No.	Part No.	Description			Remark
R910	1-249-437-11	CARBON	47K	5%	1/4W (US)
R911	1-215-451-00	METAL (Canadian, AEP, UK)	18K	1%	1/6W
R911	1-249-432-11	CARBON	18K	5%	1/4W (US)
R912	1-249-440-11	CARBON	82K	5%	1/4W
R913	1-247-862-11	CARBON	20K	5%	1/4W
R914	1-249-437-11	CARBON (HCD-A190/G1000)	47K	5%	1/4W
R915	1-249-437-11	CARBON	47K	5%	1/4W
R916	1-249-437-11	CARBON	47K	5%	1/4W
R917	1-247-864-11	CARBON	24K	5%	1/4W
R918	1-249-437-11	CARBON (HCD-A190)	47K	5%	1/4W
R919	1-249-433-11	CARBON	22K	5%	1/4W
R920	1-249-429-11	CARBON	10K	5%	1/4W
R921	1-249-424-11	CARBON	3.9K	5%	1/4W
R922	1-249-389-11	CARBON	4.7	5%	1/4W
R923	1-249-434-11	CARBON	27K	5%	1/4W
R924	1-249-434-11	CARBON	27K	5%	1/4W
R925	1-249-429-11	CARBON	10K	5%	1/4W
R926	1-249-389-11	CARBON	4.7	5%	1/4W
⚠R931	1-215-905-11	METAL OXIDE	10	5%	3W F
R932	1-249-426-11	CARBON (HCD-A190/G1000)	5.6K	5%	1/4W
R932	1-249-427-11	CARBON (HCD-D150)	6.8K	5%	1/4W
R933	1-249-442-11	CARBON (HCD-A190/G1000)	510	5%	1/4W
R933	1-249-418-11	CARBON (HCD-D150)	1.2K	5%	1/4W
R934	1-249-441-11	CARBON (HCD-A190/G1000)	100K	5%	1/4W
R935	1-249-441-11	CARBON (HCD-A190/G1000)	100K	5%	1/4W
R936	1-249-429-11	CARBON (HCD-A190/G1000)	10K	5%	1/4W
R941	1-249-436-11	CARBON	39K	5%	1/4W
R942	1-249-433-11	CARBON (HCD-A190)	22K	5%	1/4W
R943	1-249-436-11	CARBON	39K	5%	1/4W
R944	1-249-425-11	CARBON	4.7K	5%	1/4W
R945	1-249-433-11	CARBON	22K	5%	1/4W
R946	1-249-421-11	CARBON	2.2K	5%	1/4W
R947	1-249-421-11	CARBON	2.2K	5%	1/4W
R948	1-249-433-11	CARBON	22K	5%	1/4W
R949	1-249-438-11	CARBON	56K	5%	1/4W
R950	1-249-437-11	CARBON	47K	5%	1/4W
R951	1-249-437-11	CARBON	47K	5%	1/4W
R952	1-249-441-11	CARBON	100K	5%	1/4W
R953	1-249-425-11	CARBON	4.7K	5%	1/4W
R954	1-249-429-11	CARBON (HCD-A190/G1000)	10K	5%	1/4W
R955	1-249-441-11	CARBON	100K	5%	1/4W
R956	1-249-441-11	CARBON	100K	5%	1/4W
R957	1-249-429-11	CARBON (HCD-A190/G1000)	10K	5%	1/4W

< VARIABLE RESISTOR >

RV701	1-230-496-11	RES, ADJ, CARBON	10K		
RV702	1-230-496-11	RES, ADJ, CARBON	10K		
RV703	1-230-496-11	RES, ADJ, CARBON	10K		
RV704	1-230-499-11	RES, ADJ, CARBON	100K		
RV801	1-230-496-11	RES, ADJ, CARBON	10K		
RV802	1-230-496-11	RES, ADJ, CARBON	10K		
RV803	1-230-496-11	RES, ADJ, CARBON	10K		
RV804	1-230-499-11	RES, ADJ, CARBON	100K		
RV901	1-230-495-11	RES, ADJ, CARBON	2.2K		(HCD-A190/G1000)
RV902	1-230-495-11	RES, ADJ, CARBON	2.2K		

< TRANSFORMER >

T901	1-433-349-11	TRANSFORMER, BIAS OSCILLATION			

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+	A-4365-740-A	PANEL BOARD, COMPLETE (Canadian)			
+	A-4365-774-A	PANEL BOARD, COMPLETE (HCD-G1000)			
+	A-4365-789-A	PANEL BOARD, COMPLETE (AEP, UK)			
+	A-4365-799-A	PANEL BOARD, COMPLETE (HCD-D150)			

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+	4-942-301-01	HOLDER, FL TUBE			
+	4-949-935-21	CUSHION (FL)			

< CAPACITOR >

C601	1-164-159-11	CERAMIC	0.1uF		50V
C602	1-124-261-00	ELECT	10uF	20%	50V
C603	1-104-905-11	CAP, DOUBLE LAYERS	0.22F		
C604	1-164-159-11	CERAMIC	0.1uF		50V
C605	1-136-169-00	FILM	0.22uF	5%	50V
C607	1-161-379-00	CERAMIC	0.01uF	20%	25V
C608	1-161-379-00	CERAMIC	0.01uF	20%	25V
C609	1-124-910-11	ELECT	47uF	20%	50V
C610	1-161-379-00	CERAMIC	0.01uF	20%	25V
C1103	1-162-282-31	CERAMIC	100PF	10%	50V
C1104	1-124-234-00	ELECT	22uF	20%	16V
C1107	1-137-371-11	FILM	0.015uF	5%	50V
C1109	1-137-437-11	FILM	0.0056uF	5%	50V
C1111	1-137-437-11	FILM	0.0056uF	5%	50V
C1113	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C1115	1-124-257-00	ELECT	2.2uF	20%	50V
C1120	1-161-379-00	CERAMIC	0.01uF	20%	25V
C1123	1-162-286-31	CERAMIC	220PF	10%	50V

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remark
C1143	1-126-176-11	ELECT	220uF	20%	10V
C1153	1-162-282-31	CERAMIC	100PF	10%	50V
C1154	1-124-234-00	ELECT	22uF	20%	16V
C1157	1-137-371-11	FILM	0.015uF	5%	50V
C1159	1-137-437-11	FILM	0.0056uF	5%	50V
C1161	1-137-437-11	FILM	0.0056uF	5%	50V
C1163	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C1165	1-124-257-00	ELECT	2.2uF	20%	50V
C1173	1-162-286-31	CERAMIC	220PF	10%	50V
C1197	1-161-379-00	CERAMIC	0.01uF	20%	25V
		< CONNECTOR >			
* CN601	1-568-830-11	SOCKET, CONNECTOR 11P			
CN1101	1-568-838-11	SOCKET, CONNECTOR 21P			
		< COMPOSITION CIRCUIT BLOCK >			
CP601	1-239-505-11	COMPOSITION CIRCUIT BLOCK			
* CP602	1-233-216-11	COMPOSITION CIRCUIT BLOCK			
		< DIODE >			
D601	8-719-987-63	DIODE	1N4148M		
D602	8-719-987-63	DIODE	1N4148M		
D603	8-719-987-63	DIODE	1N4148M		
D604	8-719-200-82	DIODE	11ES2		
D622	8-719-987-63	DIODE	1N4148M (US, Canadian)		
D627	8-719-987-63	DIODE	1N4148M		
D628	8-719-987-63	DIODE	1N4148M (US)		
D1131	8-719-038-63	LED	SEL5220S-TH8C (TAPE)		
D1132	8-719-038-63	LED	SEL5220S-TH8C (CD)		
D1133	8-719-038-63	LED	SEL5220S-TH8C (TUNER)		
D1134	8-719-038-63	LED	SEL5220S-TH8C (PHONO) (HCD-A190/D150)		
D1134	8-719-038-63	LED	SEL5220S-TH8C (VIDEO) (HCD-G1000)		
D1145	8-719-038-63	LED	SEL5220S-TH8C (VOLUME)		
D1171	8-719-987-63	DIODE	1N4148M		
		< FLUORESCENT INDICATOR >			
FI601	1-517-258-11	INDICATOR TUBE, FLUORESCENT			
		< IC >			
IC601	8-759-248-06	IC	uPD78042GF 053 3B9		
IC602	8-749-920-83	IC	GP1U52XB		
IC1101	8-759-634-51	IC	M5218AP		
IC1102	8-759-634-51	IC	M5218AP		
IC1103	8-759-820-62	IC	LB1639		

Ref. No.	Part No.	Description			Remark
		< COIL >			
L601	1-410-521-11	INDUCTOR	100uH		
		< TRANSISTOR >			
Q601	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q602	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q1102	8-729-141-26	TRANSISTOR	2SC3622A-LK		
Q1141	8-729-900-63	TRANSISTOR	DTA124ES		
Q1147	8-729-900-36	TRANSISTOR	DTC124ES		
Q1148	8-729-900-63	TRANSISTOR	DTA124ES		
Q1152	8-729-141-26	TRANSISTOR	2SC3622A-LK		
		< RESISTOR >			
R601	1-249-417-11	CARBON	1K	5%	1/4W
R603	1-249-437-11	CARBON	47K	5%	1/4W
R604	1-249-433-11	CARBON	22K	5%	1/4W
R605	1-249-433-11	CARBON	22K	5%	1/4W
R606	1-249-429-11	CARBON	10K	5%	1/4W
R607	1-249-429-11	CARBON	10K	5%	1/4W
R608	1-249-423-11	CARBON	3.3K	5%	1/4W
R609	1-249-417-11	CARBON	1K	5%	1/4W
R610	1-249-425-11	CARBON	4.7K	5%	1/4W
R611	1-249-429-11	CARBON	10K	5%	1/4W
R613	1-249-429-11	CARBON	10K	5%	1/4W
R614	1-249-429-11	CARBON	10K	5%	1/4W
R615	1-249-433-11	CARBON	22K	5%	1/4W
R616	1-249-433-11	CARBON	22K	5%	1/4W
R621	1-249-419-11	CARBON	1.5K	5%	1/4W
R622	1-247-807-31	CARBON	100	5%	1/4W
R623	1-249-406-11	CARBON	120	5%	1/4W
R624	1-249-406-11	CARBON	120	5%	1/4W
R635	1-249-419-11	CARBON	1.5K	5%	1/4W
R636	1-247-807-31	CARBON	100	5%	1/4W
R637	1-249-406-11	CARBON	120	5%	1/4W
R638	1-249-406-11	CARBON	120	5%	1/4W
R639	1-247-811-31	CARBON	150	5%	1/4W
R640	1-249-408-11	CARBON	180	5%	1/4W
R641	1-249-409-11	CARBON	220	5%	1/4W
R642	1-249-410-11	CARBON	270	5%	1/4W
R643	1-249-411-11	CARBON	330	5%	1/4W
R644	1-249-413-11	CARBON	470	5%	1/4W
R651	1-249-385-11	CARBON	2.2	5%	1/6W
R652	1-249-385-11	CARBON	2.2	5%	1/6W
R655	1-249-417-11	CARBON*	1K	5%	1/4W
R661	1-249-417-11	CARBON	1K	5%	1/4W
R662	1-249-417-11	CARBON	1K	5%	1/4W
R663	1-249-417-11	CARBON	1K	5%	1/4W
R664	1-249-417-11	CARBON	1K	5%	1/4W

PANEL

Ref. No.	Part No.	Description			Remark
R665	1-249-417-11	CARBON	1K	5%	1/4W
R666	1-249-417-11	CARBON	1K	5%	1/4W
R1102	1-249-430-11	CARBON	12K	5%	1/4W
R1103	1-249-431-11	CARBON	15K	5%	1/4W
R1104	1-249-427-11	CARBON	6.8K	5%	1/4W
R1105	1-249-433-11	CARBON	22K	5%	1/4W
R1110	1-249-433-11	CARBON	22K	5%	1/4W
R1111	1-249-439-11	CARBON	68K	5%	1/4W
R1112	1-249-433-11	CARBON	22K	5%	1/4W
R1113	1-249-433-11	CARBON	22K	5%	1/4W
R1116	1-247-856-00	CARBON	11K	5%	1/4W
R1117	1-247-856-00	CARBON	11K	5%	1/4W
R1120	1-249-427-11	CARBON	6.8K	5%	1/4W
R1121	1-249-427-11	CARBON	6.8K	5%	1/4W
R1122	1-247-887-00	CARBON	220K	5%	1/4W
R1123	1-249-421-11	CARBON	2.2K	5%	1/4W
R1124	1-249-425-11	CARBON	4.7K	5%	1/4W
R1125	1-249-433-11	CARBON	22K	5%	1/4W
R1128	1-249-417-11	CARBON	1K	5%	1/4W
R1132	1-249-412-11	CARBON	390	5%	1/4W
R1135	1-249-437-11	CARBON (HCD-D150)	47K	5%	1/4W
R1136	1-249-437-11	CARBON (HCD-D150)	47K	5%	1/4W
R1141	1-249-435-11	CARBON	33K	5%	1/4W
R1145	1-249-412-11	CARBON	390	5%	1/4W
R1152	1-249-430-11	CARBON	12K	5%	1/4W
R1154	1-249-427-11	CARBON	6.8K	5%	1/4W
R1155	1-249-433-11	CARBON	22K	5%	1/4W
R1160	1-249-433-11	CARBON	22K	5%	1/4W
R1161	1-249-439-11	CARBON	68K	5%	1/4W
R1162	1-249-433-11	CARBON	22K	5%	1/4W
R1163	1-249-433-11	CARBON	22K	5%	1/4W
R1166	1-247-856-00	CARBON	11K	5%	1/4W
R1167	1-247-856-00	CARBON	11K	5%	1/4W
R1170	1-249-427-11	CARBON	6.8K	5%	1/4W
R1171	1-249-427-11	CARBON	6.8K	5%	1/4W
R1172	1-247-887-00	CARBON	220K	5%	1/4W
R1173	1-249-421-11	CARBON	2.2K	5%	1/4W
R1174	1-249-425-11	CARBON	4.7K	5%	1/4W
R1178	1-249-417-11	CARBON	1K	5%	1/4W
R1185	1-249-437-11	CARBON (HCD-D150)	47K	5%	1/4W
R1186	1-249-437-11	CARBON (HCD-D150)	47K	5%	1/4W
R1194	1-249-433-11	CARBON	22K	5%	1/4W
R1195	1-249-425-11	CARBON	4.7K	5%	1/4W
R1196	1-249-425-11	CARBON	4.7K	5%	1/4W

Ref. No.	Part No.	Description	Remark
		< COMPOSITION CIRCUIT BLOCK >	
RP602	1-232-998-11	COMPOSITION CIRCUIT BLOCK	
		< VARIABLE RESISTOR >	
RV1102	1-223-251-11	RES, VAR, CARBON 100K/100K (SURROUND)	
RV1103	1-241-351-11	RES, VAR, SLIDE 100K/100K (100Hz(3BAND GRAPHIC EQUALIZER)) (HCD-A190/G1000)	
RV1103	1-241-351-11	RES, VAR, SLIDE 100K/100K (BASS (TONE CONTROL)) (HCD-D150)	
RV1105	1-241-351-11	RES, VAR, SLIDE 100K/100K (1kHz (3 BAND GRAPHIC EQUALIZER)) (HCD-A190/G1000)	
RV1107	1-241-351-11	RES, VAR, SLIDE 100K/100K (10kHz(3BAND GRAPHIC EQUALIZER)) (HCD-A190/G1000)	
RV1107	1-241-351-11	RES, VAR, SLIDE 100K/100K (TREBLE (TONE CONTROL)) (HCD-D150)	
RV1109	1-223-539-11	RES, VAR, CARBON 100K/100K (VOLUME)	
		< SWITCH >	
S601	1-554-303-21	SWITCH, TACTILE (BAND)	
S602	1-554-303-21	SWITCH, TACTILE (SHIFT)	
S603	1-554-303-21	SWITCH, TACTILE (- (DUAL MODE TUNING))	
S604	1-554-303-21	SWITCH, TACTILE (+ (DUAL MODE TUNING))	
S616	1-554-303-21	SWITCH, TACTILE (MEMORY)	
S617	1-554-303-21	SWITCH, TACTILE (STEREO/MONO)	
S620	1-554-303-21	SWITCH, TACTILE (TAPE)	
S621	1-554-303-21	SWITCH, TACTILE (CD)	
S622	1-554-303-21	SWITCH, TACTILE (TUNER)	
S623	1-554-303-21	SWITCH, TACTILE (PHONO) (HCD-A190/D150)	
S623	1-554-303-21	SWITCH, TACTILE (VIDEO) (HCD-G1000)	
S624	1-554-303-21	SWITCH, TACTILE (TUNING/PRESET)	
		< VIBRATOR >	
X601	1-567-775-11	VIBRATOR, CERAMIC (4.19MHz)	

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Ref. No.	Part No.	Description			Remark
*	1-650-429-11	POWER AMPLIFIER BOARD			
		**********			
		< CAPACITOR >			
C1201	1-126-162-11	ELECT	3.3uF	20%	50V
C1202	1-162-286-31	CERAMIC	220PF	10%	50V
C1203	1-162-286-31	CERAMIC	220PF	10%	50V
C1204	1-124-482-11	ELECT	33uF	20%	35V
C1206	1-124-120-11	ELECT	220uF	20%	25V
C1208	1-124-472-11	ELECT	470uF	20%	10V
C1210	1-136-165-00	FILM	0.1uF	5%	50V
C1211	1-136-165-00	FILM	0.1uF	5%	50V
C1231	1-136-165-00	FILM	0.1uF	5%	50V
C1251	1-126-162-11	ELECT	3.3uF	20%	50V
C1252	1-162-286-31	CERAMIC	220PF	10%	50V
C1253	1-162-286-31	CERAMIC	220PF	10%	50V
C1254	1-124-482-11	ELECT	33uF	20%	35V
C1260	1-136-165-00	FILM	0.1uF	5%	50V
C1261	1-136-165-00	FILM	0.1uF	5%	50V
		< IC >			
IC1201	8-759-156-00	IC TA8221AH			
		< RESISTOR >			
R1201	1-249-417-11	CARBON	1K	5%	1/4W
R1203	1-249-413-11	CARBON	470	5%	1/4W
R1218	1-249-385-11	CARBON	2.2	5%	1/6W
R1219	1-249-385-11	CARBON	2.2	5%	1/6W
R1251	1-249-417-11	CARBON	1K	5%	1/4W
R1253	1-249-413-11	CARBON	470	5%	1/4W
R1268	1-249-385-11	CARBON	2.2	5%	1/6W
R1269	1-249-385-11	CARBON	2.2	5%	1/6W
**********					
*	1-650-598-11	POWER BOARD			
		**********			
	1-533-217-31	HOLDER, FUSE			
		< CAPACITOR >			
⚠C1301	1-161-744-51	CERAMIC	0.01uF		400V
C1348	1-136-165-00	FILM	0.1uF	5%	50V
		< CONNECTOR >			
* CN1350	1-580-230-11	PIN, CONNECTOR (PC BOARD) 3P			
* CN1351	1-564-321-00	PIN, CONNECTOR 2P			

Ref. No.	Part No.	Description	Remark
		< FUSE >	
⚠F1301	1-532-350-00	FUSE (4A/125V) (AEP, UK)	
⚠F1301	1-576-108-11	FUSE (4A/125V) (US, Canadian)	
⚠F1302	1-532-350-00	FUSE (4A/125V) (AEP, UK)	
⚠F1302	1-576-108-11	FUSE (4A/125V) (US, Canadian)	
		< RESISTOR >	
R1391	1-202-725-00	SOLID 3.3M 10% 1/2W (US, Canadian)	
		< TRANSFORMER >	
⚠T1301	1-423-912-11	TRANSFORMER, POWER (US)	
⚠T1301	1-423-913-11	TRANSFORMER, POWER (AEP, UK)	
⚠T1301	1-423-943-11	TRANSFORMER, POWER (Canadian)	
**********			
*	1-650-427-11	SW BOARD	
		********	
		< CONNECTOR >	
* CN951	1-568-942-11	PIN, CONNECTOR 4P	
		< SWITCH >	
S951	1-692-785-11	SWITCH, PUSH (3 KEY) (DOLBY NR/TAPE SELECT/DUBBING SPEED) (HCD-A190)	
S951	1-692-786-11	SWITCH, PUSH (2KEY) (TAPE SELECT/DUBBING SPEED) (HCD-G1000)	
S951	1-692-788-11	SWITCH, PUSH (1 KEY) (TAPE SELECT) (HCD-D150)	
**********			

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS	
		************	
4	1-575-664-31	WIRE, FLAT TYPE (23 CORE)	
⚠5	1-690-609-11	CORD, POWER (US, Canadian)	
⚠6	1-575-651-11	CORD, POWER (AEP)	
⚠7	1-696-570-21	CORD, POWER (UK)	
58	1-751-746-11	WIRE (FLAT TYPE) (21 CORE)	
61	1-590-575-11	WIRE, FLAT TYPE (11 CORE)	
80	1-690-708-11	CORD (WITH CONNECTOR)	
* 111	1-452-538-11	MAGNET	
154	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
⚠157	8-848-144-11	DEVICE, OPTICAL KSS-240A	
⚠F1301	1-532-350-00	FUSE (4A/125V) (AEP, UK)	
⚠F1301	1-576-108-11	FUSE (4A/125V) (US, Canadian)	
⚠F1302	1-532-350-00	FUSE (4A/125V) (AEP, UK)	
⚠F1302	1-576-108-11	FUSE (4A/125V) (US, Canadian)	
HE901	1-543-673-11	HEAD, MAGNETIC (ERASE) (DECK B)	
HP901	1-543-319-11	HEAD, MAGNETIC (REC/PB) (DECK A)	
HRP901	1-543-319-11	HEAD, MAGNETIC (REC/PB) (DECK B)	
M101	X-4917-504-1	MOTOR ASSY (SLED)	
M102	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M151	A-4604-363-A	MOTOR (L) ASSY	
M901	X-3362-377-1	MOTOR (WH) ASSY	
⚠S1301	1-572-267-61	SWITCH, PUSH (AC POWER) (1 KEY) (POWER)	
⚠T1301	1-423-912-11	TRANSFORMER, POWER (US)	
⚠T1301	1-423-913-11	TRANSFORMER, POWER (AEP, UK)	
⚠T1301	1-423-943-11	TRANSFORMER, POWER (Canadian)	

****

ACCESSORIES & PACKING MATERIALS

****

	1-467-430-11	COMMANDER, STANDARD (RM-S221)	
	2-181-754-21	COVER (MLY), BATTERY (For RM-S221)	
*	4-963-165-01	CUSHION	
*	4-965-466-01	INDIVIDUAL CARTON (AEP1)	

****

Ref. No.	Part No.	Description	Remark
		**********	
		HARDWARE LIST	
		**********	
#1	7-621-255-15	SCREW +P 2X3	
#2	7-621-775-10	SCREW +B 2.6X4	
#3	7-621-775-20	SCREW +B 2.6X5	
#4	7-621-849-00	SCREW, TAPPING	
#5	7-623-921-01	RING, RETAINING, CAPSTAN	
#6	7-682-548-04	SCREW +BVTT 3X8 (S)	
#7	7-685-103-19	SCREW +P 2X5 TYPE2 NON-SLIT	
#8	7-685-133-19	SCREW +P 2.6X6 TYPE2	
#9	7-685-135-19	SCREW +BTP 2.6X10 TYPE2 N-S	
#10	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#11	7-688-001-01	W2, SMALL	

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9-959-255-12
(Including 9-959-255-91)

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